XILINX DATA CENTER:
SV-12, SV-13, and SV-14
5 - 7 GREAT OAKS BOULEVARD
SAN JOSE, CALIFORNIA

AIR QUALITY ASSESSMENT

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Project 15-237

INTRODUCTION

This report provides the results of an assessment of potential air quality impacts from the proposed Xilinx Data Center located in south San José to the north of Santa Teresa Boulevard, between San Ignacio Avenue and Great Oaks Boulevard. The proposed data center would be comprised of three data center buildings (SV-12, SV-13, and SV-14) on an approximately 18-acre site. The three data centers buildings, each approximately 188,000 square feet in size, would be located on the northern portion of the site. In addition to the construction of the three data center buildings, the project proposes to install two new 21 kilovolt (kV) distribution feeders and construct a new substation (Santa Teresa Substation) at the existing Pacific Gas and Electric (PG&E) Edenvale Service Center, northwest of the data center project site. The locations of the new data center and new substation are shown in Figure 1.

The new data center buildings would house computer servers and supporting equipment for private clients, as well as associated office uses, in environmentally controlled structures. Standby backup electricity for each building would be provided by seven diesel fueled engine-generators located in the equipment yards adjacent to each building (six primary and one back-up generator). A total of 21 diesel-fueled emergency generators would be installed at the data center site. The diesel-fueled emergency backup generators would be used to provide for an uninterrupted power supply. The generators would provide back-up power to the data center when equipment failure or other conditions result in an interruption to the utility-provided electric power. Diesel fuel for generators will be stored in 8,000 gallon aboveground tanks under each generator. The electric generating capacity of each generator would be approximately 3 megawatts (MW).

Figure 1 – Project Components

The project site is in a mixed-use residential/office/commercial area of the City of San Jose. The proposed project components, data center and new substation, would be located near existing residences (sensitive receptors) that could be affected by construction and operation of the proposed project.

The primary source of air pollutant emissions from the data centers would be from operation of the generator engines during testing and maintenance of emergency generators. During normal facility operation these engines will not be operated other than for periodic testing and maintenance requirements. The 3 MW generators would use diesel-fueled engines that meet U.S. EPA Tier 2 emission standards. The engines would be fueled using ultra low sulfur diesel fuel with a maximum sulfur content of 15 parts per million (ppm), which minimizes both particulate matter and sulfur dioxide (SO_2) emissions.

This analysis evaluates the potential air quality impacts from construction and operation of the proposed project that includes construction of data center buildings and substation, and installation and operation of 21 new backup emergency generators at the new data. The proposed project would establish new sources of particulate matter and gaseous emissions. Operational emissions would be from the data center and would primarily result from the testing of the emergency backup generators. The air quality impacts were evaluated in terms of construction and operational impacts to air quality with the primary focus on evaluating the effects of future project-related emissions on regional air quality and on local sensitive receptors. This analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1] Note that an Authority to Construct and Permit to Operate permit would be required from the BAAQMD prior to construction and operation of the proposed project diesel engines, which may require further analysis of air quality impacts.

SETTING

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

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

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

[1] Bay Area Air Quality Management District, 2011. BAAQMD CEQA Air Quality Guidelines. May.

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants listed above. 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 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.

CARB and the U.S. EPA have adopted and implemented a number of regulations and emission standards for stationary and mobile sources to reduce emissions of diesel particulate matter (DPM). These include emission standards for off-road diesel engines, including diesel generators, and regulatory programs that affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways.

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: infants, children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The closest sensitive receptors to the proposed data center project site are existing residences along Santa Teresa Boulevard across from the site. For the proposed substation, the closest sensitive receptors are residences on Autotech Driver and Cheryl Beck Drive west of the substation site.

BAAQMD

The Bay Area Air Quality Management District (BAAQMD) is the regional agency tasked with managing air quality in the region. At the State level, the California Air Resources Board (a part of the California Environmental Protection Agency) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published CEQA Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[2]

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 and were posted on BAAQMD's website and included in the Air District's updated CEQA Guidelines (updated May 2011). The significance thresholds identified by BAAQMD and used in this analysis are summarized in Table 1.

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

[2] Bay Area Air Quality Management District. 2011. BAAQMD CEQA Air Quality Guidelines. May.

(CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). The order requires BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns. In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds. However, the California Supreme Court accepted a portion of CBIA's petition to review the appellate court's decision to uphold BAAQMD's adoption of the thresholds. The specific portion of the argument considered was whether CEQA requires consideration of the effects of the environment on a project (as contrasted to the effects of a proposed project on the environment). On December 17, 2015, the California Supreme Court ruled that CEQA generally does not require an analysis of the effects of existing environmental conditions (e.g., air quality) on a project unless the project would exacerbate those conditions somehow through its construction and/or operation. The project does not include sensitive receptors.

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	82	15
$PM_{2.5}$	54	54	10
CO	Not Applicable	9.0 ppm (8-hr) or 20.0 ppm (1-hr)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Single-Source Contribution - Health Risks and Hazards for Sensitive Receptors			
Excess Cancer Risk	> 10.0 per one million		
Hazard Index	> 1.0		
Annual Average $PM_{2.5}$	> 0.3 µg/m^3		
Cumulative Health Risks and Hazards for Sensitive Receptors			
Excess Cancer Risk	> 100.0 per one million		
Chronic Hazard Index	> 10.0		
Annual Average $PM_{2.5}$	> 0.8 µg/m^3		
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.			

IMPACTS AND MITIGATION

Impact: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The Bay Area is considered a nonattainment 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, PM_{10} and $PM_{2.5}$, BAAQMD has established thresholds of significance for air pollutants. These thresholds are for ozone precursor pollutants (ROG and NOx), PM_{10} and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Construction Period Emissions

The overall data center project site area is approximately 18 acres and would involve site preparation and the separate construction of three new 188,000-square foot data centers. There would also be construction of two new 21 kilovolt (kV) distribution feeders and construct a new substation (Santa Teresa Substation) at the existing Pacific Gas and Electric (PG&E) Edenvale Service Center. Construction activities would occur over several years in phases. Construction emissions were assessed.

The California Emissions Estimator Model, Version 2013.2.2 (CalEEMod) was used to compute construction emissions for the data center and the substation. This modeling was conducted by developing five different model runs to represent all of the on-site preparation work, construction of the SV-12 data center, SV-13 data center, SV-14 data center and the off-site distribution feeders and substation.

The construction and schedule and projected equipment usage were provided to input to the model. Inputs to the CalEEMod model are summarized as follows (CalEEMod output files and provided construction assumptions are included as *Attachment 1* to this report):

Site Preparation

For the site preparation phase, the land uses input were 573,000 square foot "Industrial Park" and a 299-space "Parking Lot" on an 18-acre site. Two construction phases were selected: Site Preparation and Grading/Excavation. The begin date for construction, and anticipated durations for each phase were input to CalEEMod. Equipment usage was provided in terms of hours per day for each phase. No import or export of material is anticipated, as the site is relatively flat. Vehicle trips were based on model defaults.

SV-12 Data Center

The SV-12 Data Center Building was modeled in CalEEMod as a 188,000 sf "Industrial Park" with an 86-space "Parking Lot" on a 2.93-acre site. Four construction phases were modeled using the anticipated schedule and projected equipment usage: Grading, Building Construction, Architectural Coating and Paving. Worker and vendor trips were based on model defaults.

SV-13 Data Center

The SV-13 Data Center Building was modeled in CalEEMod as a 191,000 sf "Industrial Park" with an 86-space "Parking Lot" on a 2.93-acre site. Four construction phases were modeled using the anticipated schedule and projected equipment usage: Grading, Building Construction, Architectural Coating and Paving. Worker and vendor trips were based on model defaults.

SV-14 Data Center

The SV-14 Data Center Building was modeled in CalEEMod as a 191,000 sf "Industrial Park" with an 86-space "Parking Lot" on a 3.29-acre site. Four construction phases were modeled using the anticipated schedule and projected equipment usage: Grading, Building Construction, Architectural Coating and Paving. Worker and vendor trips were based on model defaults.

Substation and Distribution Feeders

All emissions from the Substation and distribution feeder construction activities were modeled in CalEEMod as a 65,340 sf "General Light Industry" land use on a 2.10-acre site. Eight construction phases were modeled using the anticipated schedule and projected equipment usage: Relocation activities (i.e., demolition), Site Preparation, Paving, Excavation, Building Construction Substation, Building Construction Distribution Line, Building Construction Overhead Line, and Trenching. Worker and vendor trips were based on model defaults. Haul truck trips were added for export of 1,800 cubic yards and import of 8,525 cubic yards of soil. Vendor trips were added for 40 cement truck trips.

Based on a construction start date of November 2016 and an anticipated construction period of 290 work days for each data center building, construction would be completed in 2020. CalEEMod computes 869 construction days. Total construction emissions from full build out of the project and substation/distribution feeders are shown in Table 2. Average daily emissions are computed assuming that construction occurs over 869 days.

Table 2. Construction Period Emissions – Xilinx Project and Santa Teresa Substation

Description	ROG Emissions (tons)	NOx Emissions (tons)	PM10 Exhaust Emissions (tons)	PM2.5 Exhaust Emissions (tons)
Site Preparation Work (2016)	0.12 tons	1.40 tons	0.07 tons	0.06 tons
Building SV-12 (2016-17)	1.47 tons	3.79 tons	0.23 tons	0.22 tons
Building SV-13 (2017-19)	1.40 tons	3.30 tons	0.19 tons	0.18 tons
Building SV-14 (2019-20)	1.36 tons	2.98 tons	0.16 tons	0.15 tons
Substation and Feeders (2018-19)	0.06 tons	0.64 tons	0.03 tons	0.02 tons
Daily Project Emissions	*10 lbs/day*	*28 lbs/day*	*2 lbs/day*	*1 lbs/day*
BAAQMD Thresholds	*54lbs/day*	*54lbs/day*	*82lbs/day*	*54lbs/day*
Significant?	***No***	***No***	***No***	***No***

Note: Average daily emissions were computed by dividing total construction emissions by the number of workdays. CalEEMod predicts that the proposed project would require 869 construction days.

Construction Fugitive Dust

During grading and construction activities, dust would be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions and meteorological conditions. Nearby areas could be adversely affected by dust generated during construction activities. Nearby land uses are primarily commercial and office uses that are separated by roadways or open areas. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are employed to reduce these emissions. This impact is considered less-than-significant with implementation of *Mitigation Measures AQ-1.*

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.

Xilinx Data Center Operational Project Emissions

The primary emission sources associated with operation of the proposed project would include testing or maintenance of the 21 diesel-fueled 3-MW emergency backup generators. There would be minor emissions from traffic and area sources associated with operation of the data center facilities. Additionally, the 8,000 gallon aboveground diesel storage under each generator would have minor evaporative emission of ROG. Emissions from these sources are described below.

Note that operation of the proposed Santa Teresa Substation would result in negligible daily operational emissions. Operational emissions from the substation were assumed to be less than 1 pound per day of each criteria air pollutant and no modeling was conducted.

Area and Mobile Source Emissions

Development of the project would increase the number of vehicle trips generated from the site (i.e., employees/tenants and vendor delivery trips), which would lead to increased air pollutant emissions. There would also be area source emissions associated with normal facility operation and maintenance.

Project related mobile source and area source emissions were modeled using CalEEMod with default conditions for an industrial park type project along with project vehicle traffic.

The CalEEMod operational model included 573,000 sf "Industrial Park and a 299-space "Parking Lot" on an 18-acre site. Model defaults were used with the following exceptions:

- A trip generation rate of 1.7 trips per 1,000 sf was used to represent traffic for a data center. This trip rate is based on a traffic analysis conducted by Hexagon Transportation Consultants for a data center project in Santa Clara[3]. Hexagon cited an ITE trip rate of 0.99 trips per 1,000 sf, but counted peak-hour trips that were 170 percent of the predicted trips.

- Energy usage was adjusted to reflect current State Title 24 energy efficiency requirements. The 2013 Title 24 Building Standards became effective July 1, 2014 and are predicted to use 25 percent less energy for lighting, heating, cooling, ventilation, and water heating for residential uses and 30 percent less energy for non-residential uses than the 2008 standards that CalEEMod incorporates.[4] Therefore, the CalEEMod default values for electricity and natural gas consumption by land use would adjusted to account for the greater energy efficiency through implementation of 2013 Title 24 standards and multiplied by the project energy data to determine annual GHG energy emissions.

CalEEMod predicted annual emissions that were converted to daily emissions based on 365 days of operation. CalEEMod model output for the operational emissions are contained in *Attachment 2*.

Emergency Generator Emissions

The proposed project would install twenty-one 3-MW emergency generators equipped with Cummins diesel-fueled engines. These engines would not be operated other than for periodic testing and maintenance requirements during normal facility operation. The generator engines would be fueled using ultra low sulfur diesel fuel with a maximum sulfur content of 15 ppm. The diesel engines would meet U.S. EPA Tier 2 emission standards. These generators, seven per data center building, would be located in the equipment yards adjacent to each building. The generator equipment and operating specifications for the proposed generators are provided in Table 3.

[3] Hexagon Transportation Consultants. 2013. Memorandum to Dennis Ng, City of Santa Clara from Robert Del Rio - *CoreSite Trip Generation and Operations Analysis*. October 14.

[4] California Energy Commission, 2014. *New Title 24 Standards Will Cut Residential Energy Use by 25 Percent, Save Water, and Reduce Greenhouse Gas Emissions*. July. Available online: http://www.energy.ca.gov/releases/2014_releases/2014-07-01_new_title24_standards_nr.html

Table 3. Engine Generator Systems Equipment and Operating Information

Description		Value
3,000 kW Cummins Model C3000D6e Generator Sets		**Cummins QSK95-G9 diesel engines**
Generator Output (at 100% load)		3,000 kW
Engine Output (Standby)	at 100% Load	4,307 horsepower
	at 25% Load	1,155 horsepower
Diesel Fuel Consumption	at 100% Load	208 gallons/hour
	at 25% Load	68 gallons/hour
Diesel Fuel Sulfur Content		0.0015% (15 ppm)
Exhaust Flow Rate	at 100% Load	23,365 actual cubic feet/minute
	at 25% Load	10,028 actual cubic feet/minute
Stack Height (above ground level)		19.3 feet
Stack Inside Diameter		20 inches
Exhaust gas Temperature	at 100% Load	830 ^{o}F
	at 25% Load	630 ^{o}F

Note: 25% engine load was used to represent engine operation under no load conditions.

The operations of these generators are limited to 50 hours per year of non-emergency use (i.e. testing and maintenance) by the State's Air Toxic Control Measure for Stationary Compression Ignition Engines.[5] The project would include that testing of each generator would generally be preformed twice per month to make sure that they are ready to come online when needed in the event of a power failure. The testing is proposed to take place between the hours of 8:00 AM to 5:00 PM. Normal generator testing at no load for 5 minutes would occur monthly and generator testing at full load (100 percent load) for 1 hour would occur for 11 months of the year. In addition to the normal engine testing and operation for maintenance purposes, each engine would undergo generator load testing for up to four hours per year with the engine at full load. Total generator engine operation under normal conditions is expected to be about 16 hours per year, per engine. However, engine operation may occur more frequently due to increased testing or maintenance requirements. For purposes of estimating emissions and potential air quality impacts from the engines, it was assumed that each engine would be operated at full load (100% engine load) for 50 hours per year (maximum operation hours allowed by the State's Air Toxic Control Measure and BAAQMD for testing and maintenance). Detailed emissions information is provided in *Attachment 2*.

Table 4. Combined SV-12, SV-13, and SV-14: 50 Hours per Year Full Load Operation per Engine Average Daily and Annual Emissions from Emergency Generators

Pollutant	Average Daily Emissions All 21 Units[a] (lb/day)	Total Annual Emissions[b]: 50 Hours Operation All 21 Units (lb/year)	(ton/year)
NOx	142.9	52,144	26.1
ROG	2.7	997	0.5
CO	10.9	3,988	2.0
PM_{10}	0.4	130	0.06
$PM_{2.5}$	0.3	121	0.06
SO_2	0.13	46	0.02

[a] Average daily emissions calculated from total annual emissions and 365 days per year.
[b] Assumes operation at 100% engine load for 50 hours/year per engine.

[5] Section 93115, title 17, California Code of Regulations

This analysis computed the number of hours that each generator could operate at full load and not cause project emissions that would exceed any of the significance thresholds. Assuming full-load testing or operation for each generator of 16 hours per year, emissions of NOx would be 45.7 pounds per day and 8.3 tons per year (see Table 5). There would be some emissions associated with worker traffic that are not included in this table.

Table 5. Combined SV-12, SV-13, and SV-14: 16 Hours per Year Full Load Operation per Engine Average Daily and Annual Emissions from Emergency Generators

Pollutant	Average Daily Emissions All 21 Units[a] (lb/day)	Total Annual Emissions[b]: 16 Hours Operation All 21 Units (lb/year)	(ton/year)[c]
NOx	45.7	16,686	8.3
ROG	0.9	319	0.2
CO	3.5	1,276	0.6
PM_{10}	0.1	41	0.02
$PM_{2.5}$	0.1	39	0.02
SO_2	0.04	15	0.01

[a] Average daily emissions calculated from total annual emissions and 365 days per year.
[b] Assumes operation at 100% engine load for 16 hours/year per engine.

The estimated total emissions from the engines at SV-12, SV-13, and SV-14 under expected operating conditions (16 hours per year per engine) for testing and maintenance are shown in Table 6. These, also, do not include emissions from worker traffic.

Table 6. Combined SV-12, SV-13, and SV-14 Maximum Daily and Annual Emissions from Emergency Generators

Pollutant	Average Daily Emissions All 21 Units[a] (lb/day)	Total Annual Emissions[b]: 16 Hours Operation All 21 Units (lb/year)	(ton/year)[c]
NOx	43.4	15,827	7.9
ROG	0.9	315	0.2
CO	3.3	1,221	0.6
PM_{10}	0.1	50	0.02
$PM_{2.5}$	0.1	47	0.02
SO_2	0.04	14	0.01

[a] Average daily emissions calculated from total annual emissions and 365 days per year.
[b] Assumes operation at 100% engine load for 15 hours/year per engine and a total of 1 hour per year at 25% load.
[c] Short tons (2,000 lbs per ton).

Diesel Fuel Storage Emissions

Diesel fuel for each emergency generator would be stored in 8,000 gallon sub-base tanks of the generator housing units. Diesel fuel has a very low volatility and emissions of ROG from fuel storage are expected to be negligible.

Total Project Emissions

Total daily and annual emissions from the emergency generators, mobile and area sources are summarized in Table 7 for each modeled scenario. Without any limitations on engine operation for maintenance and testing purposes, total increased average daily and annual emissions from operation of

the project are estimated to be above the significance thresholds established by the BAAQMD for NOx on both a average daily and annual averaging period. This would be considered a *less than significant impact*

Mitigation Measure AQ-2: Include recommended conditions of approval that limit the number of hours generators can be operated for maintenance and testing purposes as follows:

Generator operation for maintenance and testing purposes shall be limited so that the combined operation of all 21engines does not exceed to 356 hours in any consecutive 12-month period

Effectiveness of Mitigation: Without limitations on the number of hours, operation of the project could cause annual and average daily emissions of NOx to exceed significance thresholds. Limiting generator operations for maintenance and testing purposes for all engines to a total of 356 hours would result in average daily total project NOx emissions of 54 pounds per day, which would not exceed the significance threshold of 54 pounds per day. Emissions would also not exceed 10 tons per year.

Table 7. Summary of Operational Average Daily Emissions in tons and (lb/day)

Emission Source	Nitrogen Oxides (NOx)	Reactive Organic Gases (ROG)	Respirable Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
BAAQMD Threshold	*10 (54)*	*10 (54)*	*15 (82)*	*10 (54)*
Maximum Emissions Scenario (50 hrs/engine per year at full load)				
Emergency Generators	26.1 (143)	0.5 (3)	0.1 (<1)	0.1 (<1)
Mobile & Area Sources	1.1 (6)	3.3 (18)	0.8 (4)	0.2 (1)
Total	**27.2 (149)**	**3.8 (21)**	**0.9 (5)**	**0.3 (2)**
Significant?	**Yes**	No	No	No
Reduced Emissions Scenario (16 hrs/engine per year at full load)				
Emergency Generators	8.3 (46)	0.2 (1)	<0.1 (<1)	<0.1 (<1)
Mobile & Area Sources	1.1 (6)	3.3 (18)	0.8 (4)	0.2 (1)
Total	**9.4 (52)**	**3.8 (21)**	**0.9 (5)**	**0.3 (2)**
Significant?	No	No	No	No
Proposed Testing Schedule Scenario (15 hrs/engine per year at full load 1 hr/engine/year 25%) load)				
Emergency Generators	7.9 (43)	0.2 (1)	<0.1 (<1)	<0.1 (<1)
Mobile & Area Sources	1.1 (6)	3.3 (18)	0.8 (4)	0.2 (1)
Total	**9.0 (49)**	**3.8 (21)**	**0.9 (5)**	**0.3 (2)**
Significant?	No	No	No	No

Impact: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Air Quality Standards for Regional Air Pollutants

Due to the limited number of hours that each emergency generator would be operated for testing and maintenance purposes emissions from these units are relatively low. Emissions of nonattainment pollutants and their precursors that affect air quality standards at the regional level were evaluated under Impact 2. Although the project could cause a cumulatively considerable net increase in ozone precursor emissions, they are no expected to cause or substantially contribute to a violation of an ozone ambient air quality standard.

Air Quality Standards for Local Air Pollutants (Carbon Monoxide from Project Traffic)

Increased intersection congestion can lead to increased localized CO concentrations (hot spots) in the vicinity of the intersection. Typically there needs to be a substantial increase in the number of vehicles accessing an intersection and a decrease in the intersection level of service (LOS) in order for there to be elevated CO concentrations of concern. Since the number of vehicles associated with the project would be minimal, the proposed project would not cause or contribute to a violation of an ambient air quality standard and the impact is considered *less than significant*

Impact: Expose sensitive receptors to substantial pollutant concentrations?

The proposed data center project would be a source of air pollutant emissions during project construction and then from operation of emergency generators for testing and maintenance purposes. These generators are diesel-fueled, so they emit DPM, which is a toxic air contaminant (TAC). The generators are also a source of $PM_{2.5}$, which has known adverse health effects. Construction of the proposed Santa Teresa Substation would be a source of TAC and $PM_{2.5}$ emissions. As discussed above, operation of the substation would generate negligible emissions, including TACs and $PM_{2.5}$.

The BAAQMD CEQA Air Quality Guidelines considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. For cancer risk the BAAQMD considers an increased risk of contracting cancer that is greater than 10.0 in one million to be significant for a single source. For cumulative exposure to TACs from existing sources affecting a sensitive receptor, in addition to a proposed new source, the BAAQMD considers an increased risk of contracting cancer that is greater than 100 in one million to be significant. The BAAQMD CEQA Guidelines also consider exposure to annual $PM_{2.5}$ concentrations that exceed 0.3 micrograms per cubic meter ($\mu g/m^3$) from a single source to be significant and an annual $PM_{2.5}$ concentration that exceed 0.8 $\mu g/m^3$ from cumulative sources to be significant.

The primary community risk impact issues associated with construction emissions and operation of the data center emergency generators are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust from construction activities and operation of emergency generators pose both a potential health and nuisance impact to nearby receptors. Community health risk impacts to sensitive receptors from construction and operational activities were evaluated by predicting potential DPM and $PM_{2.5}$ exposures to off-site sensitive receptors and then calculating increased lifetime cancer risks and non-cancer health effects. DPM and $PM_{2.5}$ emissions at each construction site and for operation of the data center emergency generators were calculated and dispersion modeling conducted to predict the off-site concentrations so that lifetime cancer risks and non-cancer health effects could be evaluated. *Attachment 2* includes a description of how community health impacts, including cancer risk are computed based on BAAQMD recommended methods.

Health impacts from construction and operation of the proposed data center and from construction of the Santa Teresa Substation are detailed below. Since the data center and substation sites are more than 2,000 feet apart and sensitive receptors potentially affected by each site are separated by more than 1,000 feet, it is not expected that emissions from one site will significantly affect impacts at the sensitive receptors at the other site. As such, the health impacts from the data center and substation construction and operation activities are evaluated and reported separately.

Community Risk – Xilinx Data Center Health Risk and Hazards

Data Center Construction Health Impacts

Construction of the data center would expose sensitive receptors in the project area to DPM from construction related activities. Sensitive receptors in the data center area are the existing nearby off-site residences. The closest existing residences to the data center site are located south of the site across Santa Teresa Boulevard. A health risk assessment of the data center construction activities was conducted that evaluated potential health effects at nearby sensitive receptors from construction DPM emissions. A dispersion model was used to predict the off-site concentrations resulting from project construction so that lifetime cancer risks could be predicted. Figure 2 shows the data center project site and sensitive receptor locations (residences) used in the air quality dispersion modeling analysis where potential health impacts were evaluated.

Construction period emissions were computed using CalEEMod along with projected construction activity, as previously described. The number and types of construction equipment and diesel vehicles, along with the anticipated length of their use for different phases of construction, were based on a site-specific construction schedule. Construction of the project is expected to occur over an approximate five-year period starting in 2016. The CalEEMod model provided annual $PM_{2.5}$ exhaust emissions (assumed to be DPM) for each year of construction for the off road construction equipment used and for the exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles). The total DPM emissions over the entire construction period were calculated as 0.663 tons (1,326 pounds). A trip length of one-half mile was used to represent vehicle travel while at or near the construction site. For modeling purposes, it was assumed that these emissions from on-road vehicles would occur at the construction site. Fugitive dust $PM_{2.5}$ emissions were also computed and included in this analysis. The model predicts total construction period fugitive $PM_{2.5}$ emissions of 0.120 tons (240 pounds).

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ at existing off-site sensitive receptors in the vicinity of the data center construction site. The AERMOD modeling utilized four area sources to represent the on-site emissions from the different construction areas. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (20 feet) was used for each 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 2 meters (6.6 feet) was used for each area source. All of the emissions from the construction equipment and construction truck travel were included in the area sources. Emissions were modeled as occurring daily between 7 a.m. to 4 p.m. when the majority of the construction activity involving equipment usage would occur. The model used a 5-year data set (2006-2010) of hourly meteorological data from the San José International Airport prepared by the BAAQMD for use with the AERMOD model. The airport is located about 11 miles northwest of the project site.

Average annual DPM concentrations from construction activities were calculated for each year of construction (2016 – 2020) based on the 5 years of meteorological data. DPM concentrations were calculated at off-site sensitive receptors at a height of 1.5 meters (4.9 feet). The locations of the maximum-modeled concentrations are identified on Figure 2.

Based on the maximum modeled DPM and $PM_{2.5}$ concentrations, maximum increased cancer risks and non-cancer health impacts were calculated using BAAQMD recommended methods, as described in *Attachment 3*. Table 8 summarizes cancer risk, hazards and annual $PM_{2.5}$ concentrations at the maximally affected off-site sensitive receptor (residence).

Table 8. Data Center Construction - Maximum Increased Cancer Risk, Hazards and $PM_{2.5}$

Sensitive Receptor	Cancer Risk (per million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)	Hazard Index (HI)
Off-Site Residence	4.5	0.02	<0.1
BAAQMD Thresholds	*10.0*	*0.3*	*1.0*

Results of this assessment indicate that the maximum off-site residential infant/child cancer risk is 4.5 in one million and the residential adult cancer risk is 0.1 in one million. These cancer risks are below the BAAQMD's threshold used for evaluating cancer risk of 10 excess cancer cases per million. The location of the receptors with the maximum off-site increased cancer risks are identified on Figure 2. Cancer risks at other residential receptors would be lower than the maximum cancer risks identified above. The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.0181 $\mu g/m^3$. The maximum computed HI based on this DPM concentration is 0.002, which is much lower than the BAAQMD significance criterion of a HI greater than 1.0. The maximum-modeled annual $PM_{2.5}$ concentration, which is based on combined exhaust and fugitive dust emissions, was 0.02 $\mu g/m^3$. Therefore, annual $PM_{2.5}$ concentration would not exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$. *Attachment 4* includes the emission calculations used for the data center construction area source modeling and the cancer risk calculations, including the CalEEMod output.

Data Center Operation Health Impacts

Since the proposed project would emit DPM from the generator engines, an analysis was performed to assess what ambient concentrations would result from their operation and to quantify potential health risks at nearby sensitive receptors.

Potential health impacts from operation of the project's generators for testing and maintenance purposes and annual load testing were evaluated using air quality dispersion modeling and applying BAAQMD recommended health impact calculation methods, as described in *Attachment 3*. DPM concentrations and potential cancer risks from operation of the generators were evaluated at existing residences in the nearby project vicinity of the proposed data center site. Figure 2 shows the proposed data center buildings and locations of project emergency generators at the Xilinx site and the receptors used to represent the locations of off-site residential receptors. The closest receptors to the proposed generators are about 750 feet south of the emergency generators for the SV-12 data center. The maximum average annual off-site DPM concentrations were used to calculate potential increased cancer risks from the project. Average annual DPM concentrations were used as being representative of long-term (30-year) exposures for calculation of cancer risks.

Figure 2. Data Center Emission Sources, Sensitive Receptor Locations, and Locations of Maximum TAC Impact from Data Center Construction and Operation

Air quality modeling of annual average DPM concentrations was conducted using the EPA's AERMOD dispersion model. The AERMOD model is a steady-state, multiple-source, dispersion model designed to calculate pollutant concentrations from single or multiple sources. The model is recommended by BAAQMD for predicting air pollutant/contaminant concentrations associated with various emissions sources. The AERMOD model predicts pollutant concentrations at receptors located in areas of flat or complex terrain from a variety of emission source types including point, area, volume and line sources. Since there are minimal elevation differences in the topography in the vicinity of the project site, flat terrain was assumed. The land use classification of the area was assumed to be urban. The modeling used a five-year data set (2006 - 2010) of hourly meteorological data from the San Jose Airport that was prepared by BAAQMD for use with the AERMOD model.

Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator testing would occur between the hours of 8:00 AM and 5:00 PM and each generator is operated for 16 hours per year. The SV-12, SV-13, and SV-14 generator engine source parameters used in the modeling are listed in Table 2. DPM emissions for the proposed emergency generators were calculated based on manufacturer's particulate matter emission factor data (Cummins Power Generation) for the generator

engines exhaust and engine load specific operational data. As a worst-case analysis, each generator was assumed to operate at full load for 50 hours per year, even though the testing schedule indicates less operation at lower engine loads. The generator emission calculations and a copy of the manufacturer's engine performance and emissions data are included in *Attachment 5*.

DPM and $PM_{2.5}$ concentrations were calculated at the locations of existing nearby residences, as shown in Figure 2. The same receptor locations used to evaluate construction impacts, discussed above, were used for evaluating impacts from the proposed emergency generators. Annual DPM and $PM_{2.5}$ concentrations from project operation were calculated at receptor heights of 1.5 meters (4.9 feet).

The maximum modeled annual DPM concentration from operation of the generators at SV-12, SV-13, and SV-14 was 0.0022 $\mu g/m^3$ at a receptor south of the data center project site across Santa Teresa Boulevard. DPM concentrations at all other existing residential locations would be lower then the maximum concentration. The location of the maximum modeled DPM concentration, and TAC impacts, are shown on Figure 2.

Based on the maximum modeled DPM and $PM_{2.5}$ concentrations, maximum increased cancer risks and non-cancer health impacts were calculated using BAAQMD recommended methods, as described in *Attachment 3*. Table 9 shows the maximum predicted community risk levels from the operation of the proposed emergency generators at SV-12, SV-13, and SV-14.

Table 9. Data Center Operation - Maximum Increased Community Risk Levels

Sensitive Receptor	Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ ($\mu g/m^3$)	Maximum Hazard Index
Off-Site Residence	1.6	< 0.01	< 0.01
BAAQMD Single Source Threshold	*10.0*	*0.3*	*1.0*
Significant?	*No*	*No*	*No*

The maximum increased cancer risks, maximum modeled annual $PM_{2.5}$ concentration, and maximum hazard index from operation of the proposed emergency generators would be below the BAAQMD significance thresholds, and would be considered a *less than significant impact*. Details of the modeling and cancer risk calculations are included in *Attachment 5*.

Data Center Total Health Impacts From Construction and Operation

The total increased cancer risk and non-cancer health impacts from construction and operation of the proposed Xilinx data center are summarized in Table 10. Total cancer risks and non-cancer health impacts from construction and operation of the proposed Xilinx data center would be below applicable BAAQMD significance thresholds and would be considered a *less than significant impact*.

Table 10. Data Center Construction and Operation – Total Maximum Health Impacts

Impact Type	Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ ($\mu g/m^3$)	Maximum Hazard Index
Total Construction and Operation Impacts	6.1	< 0.03	< 0.01
BAAQMD Single Source Threshold	*10.0*	*0.3*	*1.0*
Significant?	*No*	*No*	*No*

Community Risk – Santa Teresa Substation Health Risk and Hazards

Santa Teresa Substation Construction Health Impacts

Construction of the Santa Teresa Substation would expose sensitive receptors in the project area to DPM from construction related activities. Sensitive receptors in the proposed substation area are the existing nearby off-site residences. The closest sensitive receptors are residences on Autotech Driver and Cheryl Beck Drive west of the substation site. A health risk assessment of the substation construction activities was conducted that evaluated potential health effects at nearby sensitive receptors from construction DPM emissions. A dispersion model was used to predict the off-site concentrations resulting from project construction so that lifetime cancer risks could be predicted. Figure 3 shows the project site and sensitive receptor locations (residences) used in the air quality dispersion modeling analysis where potential health impacts were evaluated.

Construction period emissions were computed using CalEEMod along with projected construction activity, as previously described. The number and types of construction equipment and diesel vehicles, along with the anticipated length of their use for different phases of construction, were based on a site-specific construction schedule. Construction of the substation and distribution feeders is expected to occur over an approximate two-year period starting in 2018. The CalEEMod model provided annual $PM_{2.5}$ exhaust emissions (assumed to be DPM) for each year of construction for the off road construction equipment used and for the exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles). The total DPM emissions over the entire construction period were calculated as 0.0134 tons (27 pounds). A trip length of one-half mile was used to represent vehicle travel while at or near the construction site. For modeling purposes, it was assumed that these emissions from on-road vehicles would occur at the construction site. Fugitive dust $PM_{2.5}$ emissions were also computed and included in this analysis. The model predicts total construction period emissions of 0.0168 tons (34 pounds) of fugitive $PM_{2.5}$.

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM at existing off-site sensitive receptors in the vicinity of the substation construction site. The dispersion 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 6 meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. All of the emissions from the construction equipment and construction truck travel were included in the area sources. Emissions were modeled as occurring daily between 7 a.m. to 4 p.m. when the majority of the construction activity involving equipment usage would occur. The model used a 5-year data set (2006-2010) of hourly meteorological data from the San José International Airport prepared by the BAAQMD for use with the AERMOD model.

Average annual DPM concentrations from construction activities were calculated for each year of construction (2018 - 2019) based on the 5 years of meteorological data. DPM concentrations were calculated at off-site sensitive receptors at a height of 1.5 meters (4.9 feet). The locations of the maximum-modeled concentrations are identified on Figure 3.

Based on the maximum modeled DPM and $PM_{2.5}$ concentrations, maximum increased cancer risks and non-cancer health impacts were calculated using BAAQMD recommended methods, as described in *Attachment 3*. Table 11 summarizes cancer risk, hazards and annual $PM_{2.5}$ concentrations at the maximally affected off-site sensitive receptor (residence).

Table 11. Substation Construction - Maximum Increased Cancer Risk, Hazards and $PM_{2.5}$

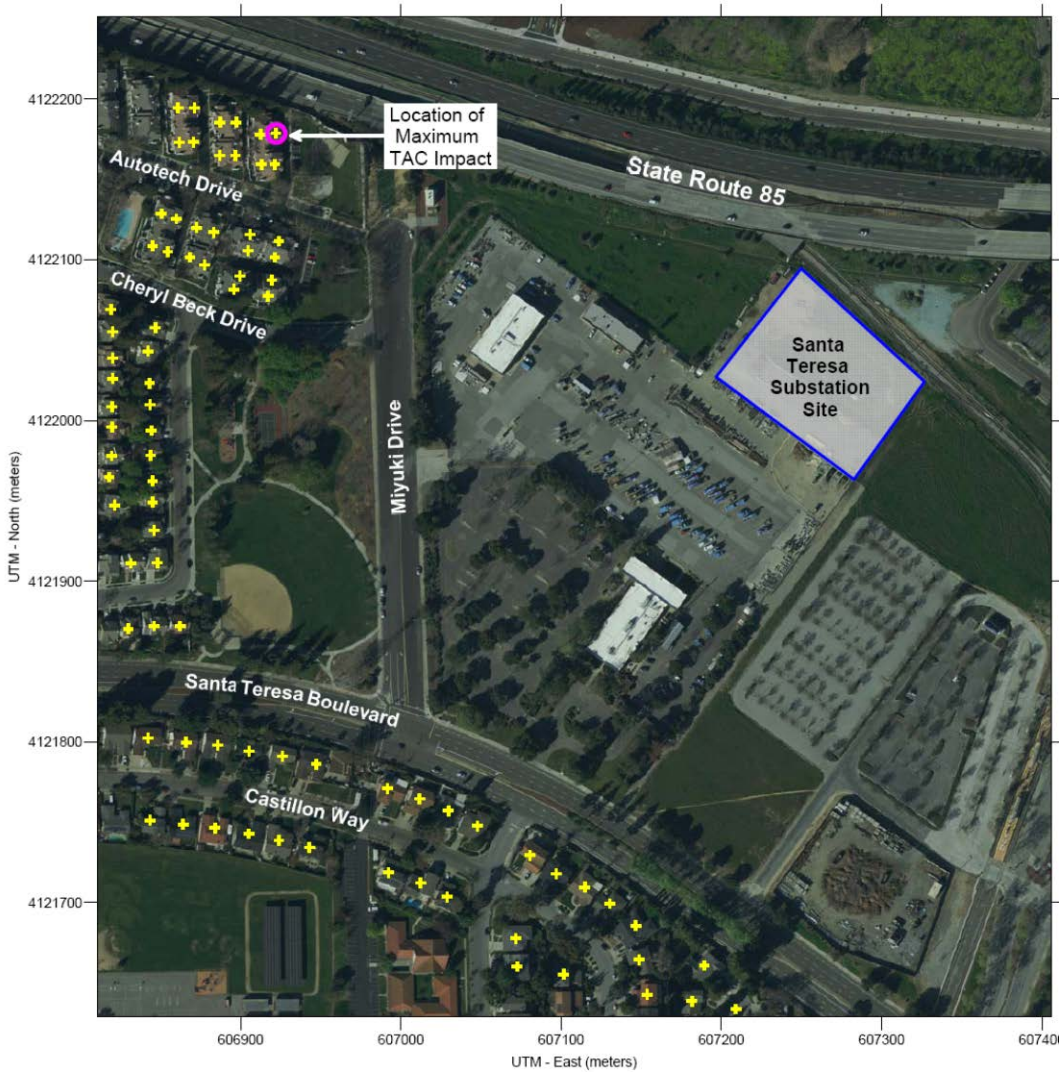
Sensitive Receptor	Cancer Risk (per million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)	Hazard Index (HI)
Off-Site Residence	0.1	<0.1	<0.1
BAAQMD Thresholds	*10.0*	*0.3*	*1.0*

Results of this assessment indicate that the maximum increased cancer risks and non-cancer health impacts from construction of the proposed Santa Teresa Substation would be well below applicable BAAQMD significance thresholds and would be considered a *less than significant impact*. Details of the modeling and cancer risk calculations are included in *Attachment 4*.

Substation Operation Health Impacts

Operation of the proposed Santa Teresa Substation would not result in significant operational emissions. Operational emissions from the substation were assumed to be insignificant.

Figure 3. Santa Teresa Substation Emission Sources, Sensitive Receptor Locations, and Location of Maximum TAC Impact



Cumulative Operational TAC Exposure

The project site is affected by several sources of TACs. Table 12 shows the cancer risk, hazard index, and $PM_{2.5}$ concentrations associated with each source affecting the project site. The sum of impacts from cumulative sources (i.e., sources within 1,000 feet of the project) would be below the thresholds used by BAAQMD. Note that impacts to off-site sensitive receptors would be less than those to on-site receptors that are closer to the project and the freeway. The Stationary Source Information Form and screening risk calculations used to assess these sources are provided in *Attachment 5* as part of the operational risk modeling information.

Table 12. Impacts from Cumulative Sources – On-Site Receptors

Sources within 1,000 feet of Project Site	Maximum Cancer Risk (per million)[1]	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)	Hazard Index (HI)
Project Impact	6.1	<0.03	<0.01
Santa Theresa Boulevard (NW-SE, 35 feet, ADT = 16,950) using Roadway Screening Calculator[2]	6.4	<0.24	<0.02
Plant No. 16518 Northrop Grumman Systems (2,200 feet)	Greater than 1,000 feet from receptor		
Plant No. 18592 – Berg and Berg (400-500 feet)	0.5	0.00	0.00
Plant No. 18254 – ISCS Inc. (1,400 feet)	Greater than 1,000 feet from receptor		
Plant No. 14947 – VA Venture (2,000 feet)	Greater than 1,000 feet from receptor		
Plant No. 19733 – Stion Corporation. (2,900 feet)	Greater than 1,000 feet from receptor		
Cumulative Sources	13.0	<0.27	0.2
BAAQMD Threshold – Cumulative Sources	***100***	***10.0***	***0.8***

Note: [1] Cumulative source cancer risk adjusted upward by factor of 1.3744 to account for new 2015 OEHHA guidance.

[2] Using BAAQMD Roadway Screening Calculator for east-west roadway, receptor 35 feet south and 16,950 ADT based on City of San Jose reported data for Santa Theresa Blvd leg south of San Ignacio Ave (see http://data.sanjoseca.gov/visualizations/26991/adt-traffic-volume-nodes/, accessed 6/15/2016)

Attachment 1: CalEEMod Construction Emissions Output

Equinix Xilinx, Site Work, TAC

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	573.00	1000sqft	18.00	573,000.00	0
Parking Lot	299.00	Space	0.00	79,220.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioxide Emission Intensity Standard

Land Use - From Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment -

Off-road Equipment -

Trips and VMT - For TAC, trip distance=0.5mile

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblLandUse	LandUseSquareFeet	119,600.00	79,220.00
tblLandUse	LotAcreage	13.15	18.00
tblLandUse	LotAcreage	2.69	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429
tblProjectCharacteristics	OperationalYear	2014	2018

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					
2016	0.1240	1.3974	0.9624	1.1600e-003	0.2240	0.0685	0.2925	0.1046	0.0630	0.1676	0.0000	108.8609	108.8609	0.0321	0.0000	109.5341
Total	**0.1240**	**1.3974**	**0.9624**	**1.1600e-003**	**0.2240**	**0.0685**	**0.2925**	**0.1046**	**0.0630**	**0.1676**	**0.0000**	**108.8609**	**108.8609**	**0.0321**	**0.0000**	**109.5341**

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					
2016	0.0360	0.9384	0.7060	1.1600e-003	0.1027	0.0255	0.1283	0.0243	0.0255	0.0498	0.0000	108.8607	108.8607	0.0321	0.0000	109.5340
Total	**0.0360**	**0.9384**	**0.7060**	**1.1600e-003**	**0.1027**	**0.0255**	**0.1283**	**0.0243**	**0.0255**	**0.0498**	**0.0000**	**108.8607**	**108.8607**	**0.0321**	**0.0000**	**109.5340**

	ROG	NOx	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	**70.99**	**32.85**	**26.65**	**0.00**	**54.13**	**62.75**	**56.15**	**76.81**	**59.51**	**70.30**	**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	11/1/2016	11/14/2016	5	10	
2	Grading	Grading	11/15/2016	12/26/2016	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2016

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4386	18.4386	5.5600e-003	0.0000	18.5554
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0903**	**0.0147**	**0.1050**	**0.0497**	**0.0135**	**0.0632**	**0.0000**	**18.4386**	**18.4386**	**5.5600e-003**	**0.0000**	**18.5554**

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	3.4000e-004	4.7000e-004	4.5800e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7220	0.7220	4.0000e-005	0.0000	0.7228
Total	**3.4000e-004**	**4.7000e-004**	**4.5800e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7220**	**0.7220**	**4.0000e-005**	**0.0000**	**0.7228**

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					0.0407	0.0000	0.0407	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1500e-003	0.1721	0.1170	2.0000e-004		4.8100e-003	4.8100e-003		4.8100e-003	4.8100e-003	0.0000	18.4385	18.4385	5.5600e-003	0.0000	18.5553
Total	**6.1500e-003**	**0.1721**	**0.1170**	**2.0000e-004**	**0.0407**	**4.8100e-003**	**0.0455**	**0.0112**	**4.8100e-003**	**0.0160**	**0.0000**	**18.4385**	**18.4385**	**5.5600e-003**	**0.0000**	**18.5553**

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	3.4000e-004	4.7000e-004	4.5800e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7220	0.7220	4.0000e-005	0.0000	0.7228
Total	**3.4000e-004**	**4.7000e-004**	**4.5800e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7220**	**0.7220**	**4.0000e-005**	**0.0000**	**0.7228**

3.3 Grading - 2016

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0972	1.1222	0.7371	9.3000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	87.2936	87.2936	0.0263	0.0000	87.8465
Total	**0.0972**	**1.1222**	**0.7371**	**9.3000e-004**	**0.1301**	**0.0538**	**0.1839**	**0.0540**	**0.0495**	**0.1034**	**0.0000**	**87.2936**	**87.2936**	**0.0263**	**0.0000**	**87.8465**

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	1.1200e-003	1.5700e-003	0.0153	3.0000e-005	2.7300e-003	2.0000e-005	2.7500e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4067	2.4067	1.3000e-004	0.0000	2.4094
Total	**1.1200e-003**	**1.5700e-003**	**0.0153**	**3.0000e-005**	**2.7300e-003**	**2.0000e-005**	**2.7500e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.4067**	**2.4067**	**1.3000e-004**	**0.0000**	**2.4094**

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					0.0586	0.0000	0.0586	0.0121	0.0000	0.0121	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0284	0.7642	0.5692	9.3000e-004		0.0207	0.0207		0.0207	0.0207	0.0000	87.2935	87.2935	0.0263	0.0000	87.8464
Total	**0.0284**	**0.7642**	**0.5692**	**9.3000e-004**	**0.0586**	**0.0207**	**0.0792**	**0.0121**	**0.0207**	**0.0328**	**0.0000**	**87.2935**	**87.2935**	**0.0263**	**0.0000**	**87.8464**

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	1.1200e-003	1.5700e-003	0.0153	3.0000e-005	2.7300e-003	2.0000e-005	2.7500e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4067	2.4067	1.3000e-004	0.0000	2.4094
Total	**1.1200e-003**	**1.5700e-003**	**0.0153**	**3.0000e-005**	**2.7300e-003**	**2.0000e-005**	**2.7500e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.4067**	**2.4067**	**1.3000e-004**	**0.0000**	**2.4094**

Xilinx Equinix, SV-12, TAC, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	191.00	1000sqft	2.93	191,000.00	0
Parking Lot	86.00	Space	0.00	22,786.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioixde Emission Intensity

Land Use - From Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Trips and VMT - For TAC, trip lengths= 0.5 mile

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	220.00	230.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	10.00	20.00
tblLandUse	LandUseSquareFeet	34,400.00	22,786.00
tblLandUse	LotAcreage	4.38	2.93
tblLandUse	LotAcreage	0.77	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2014	2018

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					
2016	0.0574	0.4668	0.3947	6.3000e-004	0.0130	0.0290	0.0420	3.5100e-003	0.0272	0.0307	0.0000	55.1315	55.1315	0.0102	0.0000	55.3448
2017	1.4125	3.3272	2.9356	4.9100e-003	0.1107	0.2028	0.3135	0.0299	0.1903	0.2202	0.0000	422.9868	422.9868	0.0722	0.0000	424.5036
Total	**1.4699**	**3.7940**	**3.3303**	**5.5400e-003**	**0.1237**	**0.2318**	**0.3555**	**0.0334**	**0.2174**	**0.2508**	**0.0000**	**478.1183**	**478.1183**	**0.0824**	**0.0000**	**479.8484**

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					
2016	0.0311	0.4061	0.3973	6.3000e-004	0.0130	0.0146	0.0276	3.5100e-003	0.0146	0.0181	0.0000	55.1315	55.1315	0.0102	0.0000	55.3448
2017	1.2319	3.0254	2.9677	4.9100e-003	0.1107	0.1089	0.2196	0.0299	0.1085	0.1384	0.0000	422.9864	422.9864	0.0722	0.0000	424.5033
Total	**1.2630**	**3.4315**	**3.3650**	**5.5400e-003**	**0.1237**	**0.1235**	**0.2472**	**0.0334**	**0.1230**	**0.1565**	**0.0000**	**478.1179**	**478.1179**	**0.0824**	**0.0000**	**479.8481**

	ROG	NOx	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	**14.08**	**9.55**	**-1.04**	**0.00**	**0.00**	**46.70**	**30.46**	**0.00**	**43.42**	**37.63**	**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	Grading	Grading	11/1/2016	11/28/2016	5	20	
2	Building Construction	Building Construction	11/29/2016	10/16/2017	5	230	
3	Architectural Coating	Architectural Coating	10/17/2017	11/13/2017	5	20	
4	Paving	Paving	11/14/2017	12/11/2017	5	20	

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: 287,525; Non-Residential Outdoor: 95,842 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Aerial Lifts	1	8.00	62	0.31
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving+C424	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	90.00	35.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2016

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	7.2900e-003	0.0769	0.0584	8.0000e-005		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	7.9251	7.9251	2.3900e-003	0.0000	7.9753
Total	**7.2900e-003**	**0.0769**	**0.0584**	**8.0000e-005**	**0.0000**	**4.6900e-003**	**4.6900e-003**	**0.0000**	**4.3100e-003**	**4.3100e-003**	**0.0000**	**7.9251**	**7.9251**	**2.3900e-003**	**0.0000**	**7.9753**

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	1.9000e-004	2.6000e-004	2.5400e-003	1.0000e-005	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4011	0.4011	2.0000e-005	0.0000	0.4016
Total	**1.9000e-004**	**2.6000e-004**	**2.5400e-003**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.4011**	**0.4011**	**2.0000e-005**	**0.0000**	**0.4016**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5200e-003	0.0753	0.0636	8.0000e-005		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	7.9251	7.9251	2.3900e-003	0.0000	7.9753
Total	**3.5200e-003**	**0.0753**	**0.0636**	**8.0000e-005**	**0.0000**	**2.6100e-003**	**2.6100e-003**	**0.0000**	**2.6100e-003**	**2.6100e-003**	**0.0000**	**7.9251**	**7.9251**	**2.3900e-003**	**0.0000**	**7.9753**

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	1.9000e-004	2.6000e-004	2.5400e-003	1.0000e-005	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4011	0.4011	2.0000e-005	0.0000	0.4016
Total	**1.9000e-004**	**2.6000e-004**	**2.5400e-003**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.4011**	**0.4011**	**2.0000e-005**	**0.0000**	**0.4016**

3.3 Building Construction - 2016

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	0.0409	0.3421	0.2221	3.2000e-004		0.0236	0.0236		0.0222	0.0222	0.0000	29.0584	29.0584	7.2100e-003	0.0000	29.2098
Total	**0.0409**	**0.3421**	**0.2221**	**3.2000e-004**		**0.0236**	**0.0236**		**0.0222**	**0.0222**	**0.0000**	**29.0584**	**29.0584**	**7.2100e-003**	**0.0000**	**29.2098**

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	4.9900e-003	0.0419	0.0568	1.0000e-004	2.7100e-003	6.3000e-004	3.3400e-003	7.8000e-004	5.8000e-004	1.3600e-003	0.0000	9.0827	9.0827	7.0000e-005	0.0000	9.0843
Worker	4.0200e-003	5.6500e-003	0.0549	1.1000e-004	9.8300e-003	8.0000e-005	9.9100e-003	2.6100e-003	7.0000e-005	2.6900e-003	0.0000	8.6641	8.6641	4.6000e-004	0.0000	8.6739
Total	**9.0100e-003**	**0.0476**	**0.1117**	**2.1000e-004**	**0.0125**	**7.1000e-004**	**0.0133**	**3.3900e-003**	**6.5000e-004**	**4.0500e-003**	**0.0000**	**17.7469**	**17.7469**	**5.3000e-004**	**0.0000**	**17.7581**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0184	0.2829	0.2195	3.2000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	29.0584	29.0584	7.2100e-003	0.0000	29.2097
Total	**0.0184**	**0.2829**	**0.2195**	**3.2000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**29.0584**	**29.0584**	**7.2100e-003**	**0.0000**	**29.2097**

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	4.9900e-003	0.0419	0.0568	1.0000e-004	2.7100e-003	6.3000e-004	3.3400e-003	7.8000e-004	5.8000e-004	1.3600e-003	0.0000	9.0827	9.0827	7.0000e-005	0.0000	9.0843
Worker	4.0200e-003	5.6500e-003	0.0549	1.1000e-004	9.8300e-003	8.0000e-005	9.9100e-003	2.6100e-003	7.0000e-005	2.6900e-003	0.0000	8.6641	8.6641	4.6000e-004	0.0000	8.6739
Total	**9.0100e-003**	**0.0476**	**0.1117**	**2.1000e-004**	**0.0125**	**7.1000e-004**	**0.0133**	**3.3900e-003**	**6.5000e-004**	**4.0500e-003**	**0.0000**	**17.7469**	**17.7469**	**5.3000e-004**	**0.0000**	**17.7581**

3.3 Building Construction - 2017

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	0.3195	2.7198	1.8673	2.7600e-003		0.1835	0.1835		0.1723	0.1723	0.0000	246.6635	246.6635	0.0607	0.0000	247.9384
Total	**0.3195**	**2.7198**	**1.8673**	**2.7600e-003**		**0.1835**	**0.1835**		**0.1723**	**0.1723**	**0.0000**	**246.6635**	**246.6635**	**0.0607**	**0.0000**	**247.9384**

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	0.0375	0.3223	0.4491	8.6000e-004	0.0233	4.6600e-003	0.0279	6.6800e-003	4.2900e-003	0.0110	0.0000	76.6227	76.6227	5.9000e-004	0.0000	76.6351
Worker	0.0309	0.0435	0.4212	9.8000e-004	0.0844	6.4000e-004	0.0850	0.0224	5.9000e-004	0.0230	0.0000	71.5242	71.5242	3.6300e-003	0.0000	71.6004
Total	**0.0684**	**0.3658**	**0.8703**	**1.8400e-003**	**0.1077**	**5.3000e-003**	**0.1130**	**0.0291**	**4.8800e-003**	**0.0340**	**0.0000**	**148.1468**	**148.1468**	**4.2200e-003**	**0.0000**	**148.2356**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1517	2.4217	1.8778	2.7600e-003		0.0955	0.0955		0.0955	0.0955	0.0000	246.6632	246.6632	0.0607	0.0000	247.9381
Total	**0.1517**	**2.4217**	**1.8778**	**2.7600e-003**		**0.0955**	**0.0955**		**0.0955**	**0.0955**	**0.0000**	**246.6632**	**246.6632**	**0.0607**	**0.0000**	**247.9381**

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	0.0375	0.3223	0.4491	8.6000e-004	0.0233	4.6600e-003	0.0279	6.6800e-003	4.2900e-003	0.0110	0.0000	76.6227	76.6227	5.9000e-004	0.0000	76.6351
Worker	0.0309	0.0435	0.4212	9.8000e-004	0.0844	6.4000e-004	0.0850	0.0224	5.9000e-004	0.0230	0.0000	71.5242	71.5242	3.6300e-003	0.0000	71.6004
Total	**0.0684**	**0.3658**	**0.8703**	**1.8400e-003**	**0.1077**	**5.3000e-003**	**0.1130**	**0.0291**	**4.8800e-003**	**0.0340**	**0.0000**	**148.1468**	**148.1468**	**4.2200e-003**	**0.0000**	**148.2356**

3.4 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9995					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9100e-003	0.0372	0.0357	6.0000e-005		2.5900e-003	2.5900e-003		2.5700e-003	2.5700e-003	0.0000	4.9368	4.9368	8.3000e-004	0.0000	4.9543
Total	**1.0044**	**0.0372**	**0.0357**	**6.0000e-005**		**2.5900e-003**	**2.5900e-003**		**2.5700e-003**	**2.5700e-003**	**0.0000**	**4.9368**	**4.9368**	**8.3000e-004**	**0.0000**	**4.9543**

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	6.0000e-004	8.4000e-004	8.1800e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3888	1.3888	7.0000e-005	0.0000	1.3903
Total	**6.0000e-004**	**8.4000e-004**	**8.1800e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6500e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3888**	**1.3888**	**7.0000e-005**	**0.0000**	**1.3903**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9995					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0000e-003	0.0394	0.0352	6.0000e-005		1.5500e-003	1.5500e-003		1.5300e-003	1.5300e-003	0.0000	4.9368	4.9368	8.3000e-004	0.0000	4.9542
Total	**1.0015**	**0.0394**	**0.0352**	**6.0000e-005**		**1.5500e-003**	**1.5500e-003**		**1.5300e-003**	**1.5300e-003**	**0.0000**	**4.9368**	**4.9368**	**8.3000e-004**	**0.0000**	**4.9542**

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	6.0000e-004	8.4000e-004	8.1800e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3888	1.3888	7.0000e-005	0.0000	1.3903
Total	**6.0000e-004**	**8.4000e-004**	**8.1800e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6500e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3888**	**1.3888**	**7.0000e-005**	**0.0000**	**1.3903**

3.5 Paving - 2017

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	0.0191	0.2030	0.1473	2.2000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	20.6934	20.6934	6.3400e-003	0.0000	20.8266
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0191**	**0.2030**	**0.1473**	**2.2000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**20.6934**	**20.6934**	**6.3400e-003**	**0.0000**	**20.8266**

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	5.0000e-004	7.0000e-004	6.8200e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1574	1.1574	6.0000e-005	0.0000	1.1586
Total	**5.0000e-004**	**7.0000e-004**	**6.8200e-003**	**2.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1574**	**1.1574**	**6.0000e-005**	**0.0000**	**1.1586**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1200e-003	0.1970	0.1693	2.2000e-004		6.5400e-003	6.5400e-003		6.5400e-003	6.5400e-003	0.0000	20.6934	20.6934	6.3400e-003	0.0000	20.8265
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1200e-003**	**0.1970**	**0.1693**	**2.2000e-004**		**6.5400e-003**	**6.5400e-003**		**6.5400e-003**	**6.5400e-003**	**0.0000**	**20.6934**	**20.6934**	**6.3400e-003**	**0.0000**	**20.8265**

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	5.0000e-004	7.0000e-004	6.8200e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1574	1.1574	6.0000e-005	0.0000	1.1586
Total	**5.0000e-004**	**7.0000e-004**	**6.8200e-003**	**2.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1574**	**1.1574**	**6.0000e-005**	**0.0000**	**1.1586**

SV13, TAC, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	191.00	1000sqft	2.93	191,000.00	0
Parking Lot	86.00	Space	0.00	22,786.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioxide Emission Intensity

Land Use - From the Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Trips and VMT -

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	220.00	230.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	10.00	20.00
tblLandUse	LandUseSquareFeet	34,400.00	22,786.00
tblLandUse	LotAcreage	4.38	2.93
tblLandUse	LotAcreage	0.77	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2014	2018

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					
2017	4.8700e-003	0.0496	0.0423	6.0000e-005	3.2000e-004	2.9900e-003	3.3100e-003	8.0000e-005	2.7500e-003	2.8300e-003	0.0000	5.7283	5.7283	1.6900e-003	0.0000	5.7637
2018	1.3861	3.1395	3.0087	5.2900e-003	0.1223	0.1829	0.3053	0.0331	0.1719	0.2050	0.0000	447.2564	447.2564	0.0742	0.0000	448.8143
2019	0.0110	0.1125	0.1119	1.8000e-004	1.0200e-003	6.0800e-003	7.1000e-003	2.7000e-004	5.5900e-003	5.8600e-003	0.0000	15.8352	15.8352	4.7900e-003	0.0000	15.9358
Total	**1.4020**	**3.3015**	**3.1629**	**5.5300e-003**	**0.1237**	**0.1920**	**0.3157**	**0.0334**	**0.1803**	**0.2137**	**0.0000**	**468.8198**	**468.8198**	**0.0807**	**0.0000**	**470.5139**

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					
2017	2.5800e-003	0.0529	0.0461	6.0000e-005	3.2000e-004	1.8300e-003	2.1400e-003	8.0000e-005	1.8300e-003	1.9100e-003	0.0000	5.7283	5.7283	1.6900e-003	0.0000	5.7637
2018	1.2370	3.1778	3.0907	5.2900e-003	0.1223	0.1144	0.2367	0.0331	0.1139	0.1470	0.0000	447.2560	447.2560	0.0742	0.0000	448.8140
2019	7.1500e-003	0.1482	0.1311	1.8000e-004	1.0200e-003	4.9100e-003	5.9400e-003	2.7000e-004	4.9100e-003	5.1900e-003	0.0000	15.8352	15.8352	4.7900e-003	0.0000	15.9358
Total	**1.2467**	**3.3788**	**3.2679**	**5.5300e-003**	**0.1237**	**0.1211**	**0.2448**	**0.0334**	**0.1207**	**0.1541**	**0.0000**	**468.8195**	**468.8195**	**0.0807**	**0.0000**	**470.5135**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**11.08**	**-2.34**	**-3.32**	**0.00**	**0.00**	**36.91**	**22.45**	**0.00**	**33.05**	**27.88**	**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	Grading	Grading	12/12/2017	1/8/2018	5	20	
2	Building Construction	Building Construction	1/9/2018	11/26/2018	5	230	
3	Architectural Coating	Architectural Coating	11/27/2018	12/24/2018	5	20	
4	Paving	Paving	12/25/2018	1/21/2019	5	20	

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: 287,525; Non-Residential Outdoor: 95,842 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Aerial Lifts	1	8.00	62	0.31
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	90.00	35.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2017

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	4.7500e-003	0.0494	0.0407	6.0000e-005		2.9900e-003	2.9900e-003		2.7500e-003	2.7500e-003	0.0000	5.4583	5.4583	1.6700e-003	0.0000	5.4934
Total	**4.7500e-003**	**0.0494**	**0.0407**	**6.0000e-005**	**0.0000**	**2.9900e-003**	**2.9900e-003**	**0.0000**	**2.7500e-003**	**2.7500e-003**	**0.0000**	**5.4583**	**5.4583**	**1.6700e-003**	**0.0000**	**5.4934**

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	1.2000e-004	1.6000e-004	1.5900e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2701	0.2701	1.0000e-005	0.0000	0.2703
Total	**1.2000e-004**	**1.6000e-004**	**1.5900e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2701**	**0.2701**	**1.0000e-005**	**0.0000**	**0.2703**

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	2.4600e-003	0.0527	0.0445	6.0000e-005		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	5.4582	5.4582	1.6700e-003	0.0000	5.4934
Total	**2.4600e-003**	**0.0527**	**0.0445**	**6.0000e-005**	**0.0000**	**1.8200e-003**	**1.8200e-003**	**0.0000**	**1.8200e-003**	**1.8200e-003**	**0.0000**	**5.4582**	**5.4582**	**1.6700e-003**	**0.0000**	**5.4934**

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	1.2000e-004	1.6000e-004	1.5900e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2701	0.2701	1.0000e-005	0.0000	0.2703
Total	**1.2000e-004**	**1.6000e-004**	**1.5900e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2701**	**0.2701**	**1.0000e-005**	**0.0000**	**0.2703**

3.2 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6900e-003	0.0174	0.0171	3.0000e-005		1.0200e-003	1.0200e-003		9.4000e-004	9.4000e-004	0.0000	2.3011	2.3011	7.2000e-004	0.0000	2.3162
Total	**1.6900e-003**	**0.0174**	**0.0171**	**3.0000e-005**	**0.0000**	**1.0200e-003**	**1.0200e-003**	**0.0000**	**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.3011**	**2.3011**	**7.2000e-004**	**0.0000**	**2.3162**

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	4.0000e-005	6.0000e-005	6.1000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1114	0.1114	1.0000e-005	0.0000	0.1115
Total	**4.0000e-005**	**6.0000e-005**	**6.1000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1114**	**0.1114**	**1.0000e-005**	**0.0000**	**0.1115**

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	1.0600e-003	0.0226	0.0191	3.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	2.3011	2.3011	7.2000e-004	0.0000	2.3162
Total	**1.0600e-003**	**0.0226**	**0.0191**	**3.0000e-005**	**0.0000**	**7.8000e-004**	**7.8000e-004**	**0.0000**	**7.8000e-004**	**7.8000e-004**	**0.0000**	**2.3011**	**2.3011**	**7.2000e-004**	**0.0000**	**2.3162**

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	4.0000e-005	6.0000e-005	6.1000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1114	0.1114	1.0000e-005	0.0000	0.1115
Total	**4.0000e-005**	**6.0000e-005**	**6.1000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1114**	**0.1114**	**1.0000e-005**	**0.0000**	**0.1115**

3.3 Building Construction - 2018

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	0.3069	2.6750	2.0163	3.0800e-003		0.1718	0.1718		0.1616	0.1616	0.0000	272.2851	272.2851	0.0666	0.0000	273.6844
Total	**0.3069**	**2.6750**	**2.0163**	**3.0800e-003**		**0.1718**	**0.1718**		**0.1616**	**0.1616**	**0.0000**	**272.2851**	**272.2851**	**0.0666**	**0.0000**	**273.6844**

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	0.0379	0.3257	0.4723	9.5000e-004	0.0260	4.8200e-003	0.0308	7.4500e-003	4.4300e-003	0.0119	0.0000	84.0545	84.0545	6.5000e-004	0.0000	84.0681
Worker	0.0310	0.0437	0.4219	1.0900e-003	0.0942	7.0000e-004	0.0949	0.0251	6.4000e-004	0.0257	0.0000	76.8837	76.8837	3.7300e-003	0.0000	76.9620
Total	**0.0689**	**0.3694**	**0.8942**	**2.0400e-003**	**0.1202**	**5.5200e-003**	**0.1257**	**0.0325**	**5.0700e-003**	**0.0376**	**0.0000**	**160.9382**	**160.9382**	**4.3800e-003**	**0.0000**	**161.0301**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1626	2.6971	2.0904	3.0800e-003		0.1050	0.1050		0.1050	0.1050	0.0000	272.2848	272.2848	0.0666	0.0000	273.6841
Total	**0.1626**	**2.6971**	**2.0904**	**3.0800e-003**		**0.1050**	**0.1050**		**0.1050**	**0.1050**	**0.0000**	**272.2848**	**272.2848**	**0.0666**	**0.0000**	**273.6841**

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	0.0379	0.3257	0.4723	9.5000e-004	0.0260	4.8200e-003	0.0308	7.4500e-003	4.4300e-003	0.0119	0.0000	84.0545	84.0545	6.5000e-004	0.0000	84.0681
Worker	0.0310	0.0437	0.4219	1.0900e-003	0.0942	7.0000e-004	0.0949	0.0251	6.4000e-004	0.0257	0.0000	76.8837	76.8837	3.7300e-003	0.0000	76.9620
Total	**0.0689**	**0.3694**	**0.8942**	**2.0400e-003**	**0.1202**	**5.5200e-003**	**0.1257**	**0.0325**	**5.0700e-003**	**0.0376**	**0.0000**	**160.9382**	**160.9382**	**4.3800e-003**	**0.0000**	**161.0301**

3.4 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9995					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4000e-003	0.0337	0.0355	6.0000e-005		2.2000e-003	2.2000e-003		2.1900e-003	2.1900e-003	0.0000	4.9127	4.9127	7.9000e-004	0.0000	4.9293
Total	**1.0039**	**0.0337**	**0.0355**	**6.0000e-005**		**2.2000e-003**	**2.2000e-003**		**2.1900e-003**	**2.1900e-003**	**0.0000**	**4.9127**	**4.9127**	**7.9000e-004**	**0.0000**	**4.9293**

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	5.4000e-004	7.6000e-004	7.3400e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3371	1.3371	6.0000e-005	0.0000	1.3385
Total	**5.4000e-004**	**7.6000e-004**	**7.3400e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6500e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3371**	**1.3371**	**6.0000e-005**	**0.0000**	**1.3385**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9995					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9300e-003	0.0384	0.0352	6.0000e-005		1.4600e-003	1.4600e-003		1.4500e-003	1.4500e-003	0.0000	4.9126	4.9126	7.9000e-004	0.0000	4.9293
Total	**1.0014**	**0.0384**	**0.0352**	**6.0000e-005**		**1.4600e-003**	**1.4600e-003**		**1.4500e-003**	**1.4500e-003**	**0.0000**	**4.9126**	**4.9126**	**7.9000e-004**	**0.0000**	**4.9293**

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	5.4000e-004	7.6000e-004	7.3400e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3371	1.3371	6.0000e-005	0.0000	1.3385
Total	**5.4000e-004**	**7.6000e-004**	**7.3400e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6500e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3371**	**1.3371**	**6.0000e-005**	**0.0000**	**1.3385**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0300e-003	0.0429	0.0362	6.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.0922	5.0922	1.5900e-003	0.0000	5.1255
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.0300e-003**	**0.0429**	**0.0362**	**6.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.1600e-003**	**2.1600e-003**	**0.0000**	**5.0922**	**5.0922**	**1.5900e-003**	**0.0000**	**5.1255**

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	1.1000e-004	1.6000e-004	1.5300e-003	0.0000	3.4000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2786	0.2786	1.0000e-005	0.0000	0.2789
Total	**1.1000e-004**	**1.6000e-004**	**1.5300e-003**	**0.0000**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2786**	**0.2786**	**1.0000e-005**	**0.0000**	**0.2789**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2800e-003	0.0493	0.0423	6.0000e-005		1.6400e-003	1.6400e-003		1.6400e-003	1.6400e-003	0.0000	5.0922	5.0922	1.5900e-003	0.0000	5.1255
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2800e-003**	**0.0493**	**0.0423**	**6.0000e-005**		**1.6400e-003**	**1.6400e-003**		**1.6400e-003**	**1.6400e-003**	**0.0000**	**5.0922**	**5.0922**	**1.5900e-003**	**0.0000**	**5.1255**

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	1.1000e-004	1.6000e-004	1.5300e-003	0.0000	3.4000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2786	0.2786	1.0000e-005	0.0000	0.2789
Total	**1.1000e-004**	**1.6000e-004**	**1.5300e-003**	**0.0000**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2786**	**0.2786**	**1.0000e-005**	**0.0000**	**0.2789**

3.5 Paving - 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	0.0107	0.1120	0.1077	1.7000e-004		6.0700e-003	6.0700e-003		5.5900e-003	5.5900e-003	0.0000	15.0296	15.0296	4.7600e-003	0.0000	15.1295
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.1120**	**0.1077**	**1.7000e-004**		**6.0700e-003**	**6.0700e-003**		**5.5900e-003**	**5.5900e-003**	**0.0000**	**15.0296**	**15.0296**	**4.7600e-003**	**0.0000**	**15.1295**

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	3.1000e-004	4.3000e-004	4.1700e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8056	0.8056	4.0000e-005	0.0000	0.8064
Total	**3.1000e-004**	**4.3000e-004**	**4.1700e-003**	**1.0000e-005**	**1.0200e-003**	**1.0000e-005**	**1.0300e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8056**	**0.8056**	**4.0000e-005**	**0.0000**	**0.8064**

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	6.8400e-003	0.1478	0.1270	1.7000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	15.0296	15.0296	4.7600e-003	0.0000	15.1294
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.8400e-003**	**0.1478**	**0.1270**	**1.7000e-004**		**4.9100e-003**	**4.9100e-003**		**4.9100e-003**	**4.9100e-003**	**0.0000**	**15.0296**	**15.0296**	**4.7600e-003**	**0.0000**	**15.1294**

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	3.1000e-004	4.3000e-004	4.1700e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8056	0.8056	4.0000e-005	0.0000	0.8064
Total	**3.1000e-004**	**4.3000e-004**	**4.1700e-003**	**1.0000e-005**	**1.0200e-003**	**1.0000e-005**	**1.0300e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8056**	**0.8056**	**4.0000e-005**	**0.0000**	**0.8064**

SV14, TAC, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	191.00	1000sqft	3.29	191,000.00	0
Parking Lot	127.00	Space	0.00	33,648.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioxide Emission intensity

Land Use - From the Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment -

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Trips and VMT - For TAC, trip distance = 0.5 miles

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	20.00
tblLandUse	LandUseSquareFeet	50,800.00	33,648.00
tblLandUse	LotAcreage	4.38	3.29
tblLandUse	LotAcreage	1.14	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2014	2018

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	0.3356	2.7698	2.8516	5.2300e-003	0.1242	0.1535	0.2776	0.0336	0.1441	0.1777	0.0000	434.3170	434.3170	0.0710	0.0000	435.8077
2020	1.0243	0.2113	0.2383	4.1000e-004	5.2800e-003	0.0113	0.0166	1.4200e-003	0.0106	0.0120	0.0000	34.1839	34.1839	8.3700e-003	0.0000	34.3598
Total	**1.3599**	**2.9811**	**3.0899**	**5.6400e-003**	**0.1294**	**0.1648**	**0.2942**	**0.0350**	**0.1547**	**0.1897**	**0.0000**	**468.5009**	**468.5009**	**0.0794**	**0.0000**	**470.1675**

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	0.2218	3.0689	2.9723	5.2300e-003	0.1242	0.1096	0.2337	0.0336	0.1091	0.1427	0.0000	434.3166	434.3166	0.0710	0.0000	435.8074
2020	1.0168	0.2879	0.2667	4.1000e-004	5.2800e-003	9.8300e-003	0.0151	1.4200e-003	9.8100e-003	0.0112	0.0000	34.1839	34.1839	8.3700e-003	0.0000	34.3598
Total	**1.2386**	**3.3568**	**3.2390**	**5.6400e-003**	**0.1294**	**0.1194**	**0.2488**	**0.0350**	**0.1189**	**0.1539**	**0.0000**	**468.5005**	**468.5005**	**0.0794**	**0.0000**	**470.1671**

	ROG	NOx	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	**8.92**	**-12.60**	**-4.82**	**0.00**	**0.00**	**27.56**	**15.43**	**0.00**	**23.13**	**18.86**	**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	Grading	Grading	1/22/2019	2/18/2019	5	20	
2	Building Construction	Building Construction	2/19/2019	1/6/2020	5	230	
3	Architectural Coating	Architectural Coating	1/7/2020	2/3/2020	5	20	
4	Paving	Paving	2/4/2020	3/2/2020	5	20	

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: 288,014; Non-Residential Outdoor: 96,005 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Aerial Lifts	1	8.00	62	0.31
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	94.00	37.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	19.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0000e-003	0.0509	0.0565	8.0000e-005		2.8900e-003	2.8900e-003		2.6600e-003	2.6600e-003	0.0000	7.5442	7.5442	2.3900e-003	0.0000	7.5943
Total	**5.0000e-003**	**0.0509**	**0.0565**	**8.0000e-005**	**0.0000**	**2.8900e-003**	**2.8900e-003**	**0.0000**	**2.6600e-003**	**2.6600e-003**	**0.0000**	**7.5442**	**7.5442**	**2.3900e-003**	**0.0000**	**7.5943**

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	1.4000e-004	1.9000e-004	1.8500e-003	1.0000e-005	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3580	0.3580	2.0000e-005	0.0000	0.3584
Total	**1.4000e-004**	**1.9000e-004**	**1.8500e-003**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3580**	**0.3580**	**2.0000e-005**	**0.0000**	**0.3584**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5200e-003	0.0753	0.0636	8.0000e-005		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	7.5442	7.5442	2.3900e-003	0.0000	7.5943
Total	**3.5200e-003**	**0.0753**	**0.0636**	**8.0000e-005**	**0.0000**	**2.6100e-003**	**2.6100e-003**	**0.0000**	**2.6100e-003**	**2.6100e-003**	**0.0000**	**7.5442**	**7.5442**	**2.3900e-003**	**0.0000**	**7.5943**

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	1.4000e-004	1.9000e-004	1.8500e-003	1.0000e-005	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3580	0.3580	2.0000e-005	0.0000	0.3584
Total	**1.4000e-004**	**1.9000e-004**	**1.8500e-003**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3580**	**0.3580**	**2.0000e-005**	**0.0000**	**0.3584**

3.3 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	0.2657	2.3691	1.9346	3.0300e-003		0.1452	0.1452		0.1365	0.1365	0.0000	264.5587	264.5587	0.0644	0.0000	265.9105
Total	**0.2657**	**2.3691**	**1.9346**	**3.0300e-003**		**0.1452**	**0.1452**		**0.1365**	**0.1365**	**0.0000**	**264.5587**	**264.5587**	**0.0644**	**0.0000**	**265.9105**

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	0.0357	0.3089	0.4651	9.9000e-004	0.0270	4.6500e-003	0.0316	7.7400e-003	4.2800e-003	0.0120	0.0000	85.7938	85.7938	6.6000e-004	0.0000	85.8077
Worker	0.0291	0.0408	0.3935	1.1200e-003	0.0967	7.0000e-004	0.0974	0.0257	6.5000e-004	0.0264	0.0000	76.0622	76.0622	3.5500e-003	0.0000	76.1368
Total	**0.0648**	**0.3497**	**0.8587**	**2.1100e-003**	**0.1237**	**5.3500e-003**	**0.1291**	**0.0335**	**4.9300e-003**	**0.0384**	**0.0000**	**161.8560**	**161.8560**	**4.2100e-003**	**0.0000**	**161.9445**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1534	2.6437	2.0482	3.0300e-003		0.1016	0.1016		0.1016	0.1016	0.0000	264.5584	264.5584	0.0644	0.0000	265.9102
Total	**0.1534**	**2.6437**	**2.0482**	**3.0300e-003**		**0.1016**	**0.1016**		**0.1016**	**0.1016**	**0.0000**	**264.5584**	**264.5584**	**0.0644**	**0.0000**	**265.9102**

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	0.0357	0.3089	0.4651	9.9000e-004	0.0270	4.6500e-003	0.0316	7.7400e-003	4.2800e-003	0.0120	0.0000	85.7938	85.7938	6.6000e-004	0.0000	85.8077
Worker	0.0291	0.0408	0.3935	1.1200e-003	0.0967	7.0000e-004	0.0974	0.0257	6.5000e-004	0.0264	0.0000	76.0622	76.0622	3.5500e-003	0.0000	76.1368
Total	**0.0648**	**0.3497**	**0.8587**	**2.1100e-003**	**0.1237**	**5.3500e-003**	**0.1291**	**0.0335**	**4.9300e-003**	**0.0384**	**0.0000**	**161.8560**	**161.8560**	**4.2100e-003**	**0.0000**	**161.9445**

3.3 Building Construction - 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	4.2200e-003	0.0382	0.0336	5.0000e-005		2.2300e-003	2.2300e-003		2.0900e-003	2.0900e-003	0.0000	4.6130	4.6130	1.1200e-003	0.0000	4.6366
Total	**4.2200e-003**	**0.0382**	**0.0336**	**5.0000e-005**		**2.2300e-003**	**2.2300e-003**		**2.0900e-003**	**2.0900e-003**	**0.0000**	**4.6130**	**4.6130**	**1.1200e-003**	**0.0000**	**4.6366**

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	6.0000e-004	4.6600e-003	7.9800e-003	2.0000e-005	4.8000e-004	7.0000e-005	5.5000e-004	1.4000e-004	7.0000e-005	2.0000e-004	0.0000	1.4837	1.4837	1.0000e-005	0.0000	1.4840
Worker	4.8000e-004	6.7000e-004	6.4200e-003	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.2921	1.2921	6.0000e-005	0.0000	1.2934
Total	**1.0800e-003**	**5.3300e-003**	**0.0144**	**4.0000e-005**	**2.1900e-003**	**8.0000e-005**	**2.2700e-003**	**6.0000e-004**	**8.0000e-005**	**6.7000e-004**	**0.0000**	**2.7759**	**2.7759**	**7.0000e-005**	**0.0000**	**2.7774**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6300e-003	0.0467	0.0362	5.0000e-005		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	4.6130	4.6130	1.1200e-003	0.0000	4.6366
Total	**2.6300e-003**	**0.0467**	**0.0362**	**5.0000e-005**		**1.7700e-003**	**1.7700e-003**		**1.7700e-003**	**1.7700e-003**	**0.0000**	**4.6130**	**4.6130**	**1.1200e-003**	**0.0000**	**4.6366**

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	6.0000e-004	4.6600e-003	7.9800e-003	2.0000e-005	4.8000e-004	7.0000e-005	5.5000e-004	1.4000e-004	7.0000e-005	2.0000e-004	0.0000	1.4837	1.4837	1.0000e-005	0.0000	1.4840
Worker	4.8000e-004	6.7000e-004	6.4200e-003	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.2921	1.2921	6.0000e-005	0.0000	1.2934
Total	**1.0800e-003**	**5.3300e-003**	**0.0144**	**4.0000e-005**	**2.1900e-003**	**8.0000e-005**	**2.2700e-003**	**6.0000e-004**	**8.0000e-005**	**6.7000e-004**	**0.0000**	**2.7759**	**2.7759**	**7.0000e-005**	**0.0000**	**2.7774**

3.4 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	1.0012					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6200e-003	0.0288	0.0352	6.0000e-005		1.6200e-003	1.6200e-003		1.6100e-003	1.6100e-003	0.0000	4.8562	4.8562	7.3000e-004	0.0000	4.8716
Total	**1.0048**	**0.0288**	**0.0352**	**6.0000e-005**		**1.6200e-003**	**1.6200e-003**		**1.6100e-003**	**1.6100e-003**	**0.0000**	**4.8562**	**4.8562**	**7.3000e-004**	**0.0000**	**4.8716**

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	4.8000e-004	6.7000e-004	6.4900e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3059	1.3059	6.0000e-005	0.0000	1.3071
Total	**4.8000e-004**	**6.7000e-004**	**6.4900e-003**	**2.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.3059**	**1.3059**	**6.0000e-005**	**0.0000**	**1.3071**

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	1.0012					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9100e-003	0.0377	0.0352	6.0000e-005		1.4100e-003	1.4100e-003		1.4000e-003	1.4000e-003	0.0000	4.8562	4.8562	7.3000e-004	0.0000	4.8716
Total	**1.0031**	**0.0377**	**0.0352**	**6.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**4.8562**	**4.8562**	**7.3000e-004**	**0.0000**	**4.8716**

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	4.8000e-004	6.7000e-004	6.4900e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3059	1.3059	6.0000e-005	0.0000	1.3071
Total	**4.8000e-004**	**6.7000e-004**	**6.4900e-003**	**2.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.3059**	**1.3059**	**6.0000e-005**	**0.0000**	**1.3071**

3.5 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	0.0133	0.1378	0.1435	2.2000e-004		7.3900e-003	7.3900e-003		6.8000e-003	6.8000e-003	0.0000	19.6021	19.6021	6.3400e-003	0.0000	19.7352
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0133**	**0.1378**	**0.1435**	**2.2000e-004**		**7.3900e-003**	**7.3900e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**19.6021**	**19.6021**	**6.3400e-003**	**0.0000**	**19.7352**

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	3.8000e-004	5.3000e-004	5.1200e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.0310	1.0310	5.0000e-005	0.0000	1.0319
Total	**3.8000e-004**	**5.3000e-004**	**5.1200e-003**	**2.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.0310**	**1.0310**	**5.0000e-005**	**0.0000**	**1.0319**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1200e-003	0.1970	0.1693	2.2000e-004		6.5400e-003	6.5400e-003		6.5400e-003	6.5400e-003	0.0000	19.6020	19.6020	6.3400e-003	0.0000	19.7352
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1200e-003**	**0.1970**	**0.1693**	**2.2000e-004**		**6.5400e-003**	**6.5400e-003**		**6.5400e-003**	**6.5400e-003**	**0.0000**	**19.6020**	**19.6020**	**6.3400e-003**	**0.0000**	**19.7352**

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	3.8000e-004	5.3000e-004	5.1200e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.0310	1.0310	5.0000e-005	0.0000	1.0319
Total	**3.8000e-004**	**5.3000e-004**	**5.1200e-003**	**2.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.0310**	**1.0310**	**5.0000e-005**	**0.0000**	**1.0319**

Xilinx Substation, TAC, San Jose

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	65.34	1000sqft	2.10	65,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised CO2 emission intensity

Land Use - From the presentation on Saint Teresa Sub Station

Construction Phase - Site Specific Construction Schedule

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Trips and VMT - For TAc, trip distances= 0.5 mile

Grading - 1800 cy export
8525 cy import

Construction Off-road Equipment Mitigation - Best Management Practices

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Table Name	Column Name	Default Value	New Value
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tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripNumber	0.00	40.00

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					
2018	0.0579	0.6080	0.5424	1.1300e-003	0.1466	0.0239	0.1705	0.0732	0.0220	0.0953	0.0000	99.0500	99.0500	0.0122	0.0000	99.3071
2019	3.6200e-003	0.0335	0.0367	7.0000e-005	1.8000e-003	1.8800e-003	3.6800e-003	4.8000e-004	1.7300e-003	2.2100e-003	0.0000	5.6987	5.6987	1.2200e-003	0.0000	5.7243
Total	**0.0616**	**0.6416**	**0.5791**	**1.2000e-003**	**0.1484**	**0.0258**	**0.1742**	**0.0737**	**0.0237**	**0.0975**	**0.0000**	**104.7487**	**104.7487**	**0.0135**	**0.0000**	**105.0314**

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					

2018	0.0359	0.5223	0.4573	1.1300e-003	0.0800	0.0137	0.0937	0.0219	0.0131	0.0350	0.0000	99.0500	99.0500	0.0122	0.0000	99.3070
2019	3.2000e-003	0.0356	0.0369	7.0000e-005	1.8000e-003	1.7000e-003	3.5000e-003	4.8000e-004	1.6000e-003	2.0800e-003	0.0000	5.6987	5.6987	1.2200e-003	0.0000	5.7243
Total	**0.0391**	**0.5579**	**0.4942**	**1.2000e-003**	**0.0818**	**0.0154**	**0.0972**	**0.0224**	**0.0147**	**0.0370**	**0.0000**	**104.7487**	**104.7487**	**0.0135**	**0.0000**	**105.0313**

	ROG	NOx	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	**36.44**	**13.05**	**14.65**	**0.00**	**44.86**	**40.45**	**44.21**	**69.68**	**38.12**	**62.01**	**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	Relocation	Site Preparation	8/13/2018	9/7/2018	5	20	
2	Site Preparation	Site Preparation	9/10/2018	11/2/2018	5	40	
3	Paving	Paving	9/10/2018	10/5/2018	5	20	
4	Excavation	Grading	11/3/2018	12/28/2018	5	40	
5	Building Construction: Substation	Building Construction	11/12/2018	1/4/2019	5	40	
6	Building Construction: Distribution Line	Building Construction	11/12/2018	1/4/2019	5	40	
7	Building Construction: Overhead Lines	Building Construction	11/19/2018	11/28/2018	5	8	
8	Trenching	Trenching	1/7/2019	2/1/2019	5	20	

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 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Relocation	Concrete/Industrial Saws	0	0.00	81	0.73
Relocation	Forklifts	1	8.00	89	0.20
Relocation	Graders	0	0.00	174	0.41
Relocation	Rubber Tired Dozers	0	0.00	255	0.40
Relocation	Scrapers	0	0.00	361	0.48
Relocation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Graders	0	0.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	255	0.40
Site Preparation	Scrapers	0	0.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	0	0.00	125	0.42
Paving	Paving Equipment	0	0.00	130	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction: Substation	Cranes	1	0.30	226	0.29
Building Construction: Distribution Line	Cranes	1	1.25	226	0.29
Building Construction: Overhead Lines	Cranes	0	0.00	226	0.29
Building Construction: Substation	Forklifts	1	3.00	89	0.20
Building Construction: Distribution Line	Forklifts	0	0.00	89	0.20
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction: Overhead Lines	Forklifts	0	0.00	89	0.20

Building Construction: Substation	Generator Sets	0	0.00	84	0.74
Building Construction: Distribution Line	Generator Sets	0	0.00	84	0.74
Building Construction: Overhead Lines	Generator Sets	0	0.00	84	0.74
Excavation	Graders	0	0.00	174	0.41
Excavation	Rubber Tired Dozers	0	0.00	255	0.40
Building Construction: Substation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction: Distribution Line	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction: Overhead Lines	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Excavation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction: Substation	Welders	0	0.00	46	0.45
Building Construction: Distribution Line	Welders	0	0.00	46	0.45
Building Construction: Overhead Lines	Welders	0	0.00	46	0.45
Building Construction: Distribution Line	Bore/Drill Rigs	1	3.00	205	0.50
Building Construction: Overhead Lines	Bore/Drill Rigs	1	4.00	205	0.50

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
Relocation	1	3.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	1	3.00	0.00	1,291.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	1	3.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction: Substation	2	27.00	11.00	40.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	3.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction: Distribution Line	2	27.00	11.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction: Overhead Lines	2	27.00	11.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Excavation	1	3.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Relocation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7800e-003	0.0157	0.0121	2.0000e-005		1.2600e-003	1.2600e-003		1.1600e-003	1.1600e-003	0.0000	1.3951	1.3951	4.3000e-004	0.0000	1.4043
Total	**1.7800e-003**	**0.0157**	**0.0121**	**2.0000e-005**	**0.0000**	**1.2600e-003**	**1.2600e-003**	**0.0000**	**1.1600e-003**	**1.1600e-003**	**0.0000**	**1.3951**	**1.3951**	**4.3000e-004**	**0.0000**	**1.4043**

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	9.0000e-005	1.3000e-004	1.2200e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2229	0.2229	1.0000e-005	0.0000	0.2231
Total	**9.0000e-005**	**1.3000e-004**	**1.2200e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2229**	**0.2229**	**1.0000e-005**	**0.0000**	**0.2231**

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	7.2000e-004	0.0149	0.0116	2.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	1.3951	1.3951	4.3000e-004	0.0000	1.4043
Total	**7.2000e-004**	**0.0149**	**0.0116**	**2.0000e-005**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**0.0000**	**1.3951**	**1.3951**	**4.3000e-004**	**0.0000**	**1.4043**

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	9.0000e-005	1.3000e-004	1.2200e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2229	0.2229	1.0000e-005	0.0000	0.2231
Total	**9.0000e-005**	**1.3000e-004**	**1.2200e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2229**	**0.2229**	**1.0000e-005**	**0.0000**	**0.2231**

3.3 Site Preparation - 2018

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					0.1210	0.0000	0.1210	0.0663	0.0000	0.0663	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2339	0.1793	1.8000e-004		0.0108	0.0108		9.9400e-003	9.9400e-003	0.0000	16.2608	16.2608	5.0600e-003	0.0000	16.3671
Total	**0.0215**	**0.2339**	**0.1793**	**1.8000e-004**	**0.1210**	**0.0108**	**0.1318**	**0.0663**	**9.9400e-003**	**0.0762**	**0.0000**	**16.2608**	**16.2608**	**5.0600e-003**	**0.0000**	**16.3671**

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	0.0118	0.1569	0.1350	4.8000e-004	0.0109	2.1900e-003	0.0131	3.0000e-003	2.0100e-003	5.0100e-003	0.0000	42.7233	42.7233	3.2000e-004	0.0000	42.7300
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	1.8000e-004	2.5000e-004	2.4500e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4457	0.4457	2.0000e-005	0.0000	0.4462
Total	**0.0120**	**0.1571**	**0.1375**	**4.9000e-004**	**0.0115**	**2.1900e-003**	**0.0136**	**3.1500e-003**	**2.0100e-003**	**5.1600e-003**	**0.0000**	**43.1690**	**43.1690**	**3.4000e-004**	**0.0000**	**43.1762**

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					0.0545	0.0000	0.0545	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3200e-003	0.1493	0.0936	1.8000e-004		3.1700e-003	3.1700e-003		3.1700e-003	3.1700e-003	0.0000	16.2608	16.2608	5.0600e-003	0.0000	16.3671
Total	**4.3200e-003**	**0.1493**	**0.0936**	**1.8000e-004**	**0.0545**	**3.1700e-003**	**0.0576**	**0.0149**	**3.1700e-003**	**0.0181**	**0.0000**	**16.2608**	**16.2608**	**5.0600e-003**	**0.0000**	**16.3671**

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	0.0118	0.1569	0.1350	4.8000e-004	0.0109	2.1900e-003	0.0131	3.0000e-003	2.0100e-003	5.0100e-003	0.0000	42.7233	42.7233	3.2000e-004	0.0000	42.7300
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	1.8000e-004	2.5000e-004	2.4500e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4457	0.4457	2.0000e-005	0.0000	0.4462
Total	**0.0120**	**0.1571**	**0.1375**	**4.9000e-004**	**0.0115**	**2.1900e-003**	**0.0136**	**3.1500e-003**	**2.0100e-003**	**5.1600e-003**	**0.0000**	**43.1690**	**43.1690**	**3.4000e-004**	**0.0000**	**43.1762**

3.4 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5800e-003	0.0249	0.0194	3.0000e-005		1.7200e-003	1.7200e-003		1.5800e-003	1.5800e-003	0.0000	2.3941	2.3941	7.5000e-004	0.0000	2.4098
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5800e-003**	**0.0249**	**0.0194**	**3.0000e-005**		**1.7200e-003**	**1.7200e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**2.3941**	**2.3941**	**7.5000e-004**	**0.0000**	**2.4098**

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	9.0000e-005	1.3000e-004	1.2200e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2229	0.2229	1.0000e-005	0.0000	0.2231
Total	**9.0000e-005**	**1.3000e-004**	**1.2200e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2229**	**0.2229**	**1.0000e-005**	**0.0000**	**0.2231**

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	1.2300e-003	0.0255	0.0198	3.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	2.3941	2.3941	7.5000e-004	0.0000	2.4098
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2300e-003**	**0.0255**	**0.0198**	**3.0000e-005**		**1.0300e-003**	**1.0300e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3941**	**2.3941**	**7.5000e-004**	**0.0000**	**2.4098**

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	9.0000e-005	1.3000e-004	1.2200e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2229	0.2229	1.0000e-005	0.0000	0.2231
Total	**9.0000e-005**	**1.3000e-004**	**1.2200e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2229**	**0.2229**	**1.0000e-005**	**0.0000**	**0.2231**

3.5 Excavation - 2018

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	5.3200e-003	0.0526	0.0467	6.0000e-005		3.7300e-003	3.7300e-003		3.4300e-003	3.4300e-003	0.0000	5.6749	5.6749	1.7700e-003	0.0000	5.7120
Total	**5.3200e-003**	**0.0526**	**0.0467**	**6.0000e-005**	**0.0000**	**3.7300e-003**	**3.7300e-003**	**0.0000**	**3.4300e-003**	**3.4300e-003**	**0.0000**	**5.6749**	**5.6749**	**1.7700e-003**	**0.0000**	**5.7120**

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	1.8000e-004	2.5000e-004	2.4500e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4457	0.4457	2.0000e-005	0.0000	0.4462
Total	**1.8000e-004**	**2.5000e-004**	**2.4500e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4457**	**0.4457**	**2.0000e-005**	**0.0000**	**0.4462**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5300e-003	0.0551	0.0468	6.0000e-005		3.3000e-003	3.3000e-003		3.1000e-003	3.1000e-003	0.0000	5.6749	5.6749	1.7700e-003	0.0000	5.7120
Total	**4.5300e-003**	**0.0551**	**0.0468**	**6.0000e-005**	**0.0000**	**3.3000e-003**	**3.3000e-003**	**0.0000**	**3.1000e-003**	**3.1000e-003**	**0.0000**	**5.6749**	**5.6749**	**1.7700e-003**	**0.0000**	**5.7120**

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	1.8000e-004	2.5000e-004	2.4500e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4457	0.4457	2.0000e-005	0.0000	0.4462
Total	**1.8000e-004**	**2.5000e-004**	**2.4500e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4457**	**0.4457**	**2.0000e-005**	**0.0000**	**0.4462**

3.6 Building Construction: Substation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5800e-003	0.0151	9.8400e-003	1.0000e-005		1.0400e-003	1.0400e-003		9.6000e-004	9.6000e-004	0.0000	1.2896	1.2896	4.0000e-004	0.0000	1.2980
Total	**1.5800e-003**	**0.0151**	**9.8400e-003**	**1.0000e-005**		**1.0400e-003**	**1.0400e-003**		**9.6000e-004**	**9.6000e-004**	**0.0000**	**1.2896**	**1.2896**	**4.0000e-004**	**0.0000**	**1.2980**

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	3.3000e-004	4.3700e-003	3.7600e-003	1.0000e-005	3.3000e-004	6.0000e-005	3.9000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	1.1914	1.1914	1.0000e-005	0.0000	1.1915
Vendor	1.8600e-003	0.0160	0.0232	5.0000e-005	1.2800e-003	2.4000e-004	1.5200e-003	3.7000e-004	2.2000e-004	5.8000e-004	0.0000	4.1349	4.1349	3.0000e-005	0.0000	4.1355
Worker	1.4500e-003	2.0500e-003	0.0198	5.0000e-005	4.4200e-003	3.0000e-005	4.4600e-003	1.1800e-003	3.0000e-005	1.2100e-003	0.0000	3.6102	3.6102	1.7000e-004	0.0000	3.6139
Total	**3.6400e-003**	**0.0224**	**0.0468**	**1.1000e-004**	**6.0300e-003**	**3.3000e-004**	**6.3700e-003**	**1.6400e-003**	**3.1000e-004**	**1.9400e-003**	**0.0000**	**8.9364**	**8.9364**	**2.1000e-004**	**0.0000**	**8.9409**

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	7.2000e-004	0.0139	9.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.3000e-004	5.3000e-004	0.0000	1.2896	1.2896	4.0000e-004	0.0000	1.2980
Total	**7.2000e-004**	**0.0139**	**9.6900e-003**	**1.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.2896**	**1.2896**	**4.0000e-004**	**0.0000**	**1.2980**

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	3.3000e-004	4.3700e-003	3.7600e-003	1.0000e-005	3.3000e-004	6.0000e-005	3.9000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	1.1914	1.1914	1.0000e-005	0.0000	1.1915
Vendor	1.8600e-003	0.0160	0.0232	5.0000e-005	1.2800e-003	2.4000e-004	1.5200e-003	3.7000e-004	2.2000e-004	5.8000e-004	0.0000	4.1349	4.1349	3.0000e-005	0.0000	4.1355
Worker	1.4500e-003	2.0500e-003	0.0198	5.0000e-005	4.4200e-003	3.0000e-005	4.4600e-003	1.1800e-003	3.0000e-005	1.2100e-003	0.0000	3.6102	3.6102	1.7000e-004	0.0000	3.6139
Total	**3.6400e-003**	**0.0224**	**0.0468**	**1.1000e-004**	**6.0300e-003**	**3.3000e-004**	**6.3700e-003**	**1.6400e-003**	**3.1000e-004**	**1.9400e-003**	**0.0000**	**8.9364**	**8.9364**	**2.1000e-004**	**0.0000**	**8.9409**

3.6 Building Construction: Substation - 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	1.6000e-004	1.5100e-003	1.0600e-003	0.0000		1.0000e-004	1.0000e-004		9.0000e-005	9.0000e-005	0.0000	0.1410	0.1410	4.0000e-005	0.0000	0.1419
Total	**1.6000e-004**	**1.5100e-003**	**1.0600e-003**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.1410**	**0.1410**	**4.0000e-005**	**0.0000**	**0.1419**

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	3.0000e-005	4.5000e-004	4.0000e-004	0.0000	2.6000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.1301	0.1301	0.0000	0.0000	0.1301
Vendor	1.9000e-004	1.6300e-003	2.4500e-003	1.0000e-005	1.4000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4514	0.4514	0.0000	0.0000	0.4515
Worker	1.5000e-004	2.1000e-004	2.0000e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3867	0.3867	2.0000e-005	0.0000	0.3871
Total	**3.7000e-004**	**2.2900e-003**	**4.8500e-003**	**2.0000e-005**	**8.9000e-004**	**3.0000e-005**	**9.4000e-004**	**2.4000e-004**	**3.0000e-005**	**2.6000e-004**	**0.0000**	**0.9682**	**0.9682**	**2.0000e-005**	**0.0000**	**0.9687**

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	8.0000e-005	1.5200e-003	1.0700e-003	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.1410	0.1410	4.0000e-005	0.0000	0.1419
Total	**8.0000e-005**	**1.5200e-003**	**1.0700e-003**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.1410**	**0.1410**	**4.0000e-005**	**0.0000**	**0.1419**

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	3.0000e-005	4.5000e-004	4.0000e-004	0.0000	2.6000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.1301	0.1301	0.0000	0.0000	0.1301
Vendor	1.9000e-004	1.6300e-003	2.4500e-003	1.0000e-005	1.4000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4514	0.4514	0.0000	0.0000	0.4515
Worker	1.5000e-004	2.1000e-004	2.0000e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3867	0.3867	2.0000e-005	0.0000	0.3871
Total	**3.7000e-004**	**2.2900e-003**	**4.8500e-003**	**2.0000e-005**	**8.9000e-004**	**3.0000e-005**	**9.4000e-004**	**2.4000e-004**	**3.0000e-005**	**2.6000e-004**	**0.0000**	**0.9682**	**0.9682**	**2.0000e-005**	**0.0000**	**0.9687**

3.7 Building Construction: Distribution Line - 2018

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	3.4700e-003	0.0452	0.0201	7.0000e-005		1.5600e-003	1.5600e-003		1.4300e-003	1.4300e-003	0.0000	6.8402	6.8402	2.1300e-003	0.0000	6.8849
Total	**3.4700e-003**	**0.0452**	**0.0201**	**7.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**6.8402**	**6.8402**	**2.1300e-003**	**0.0000**	**6.8849**

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	1.8600e-003	0.0160	0.0232	5.0000e-005	1.2800e-003	2.4000e-004	1.5200e-003	3.7000e-004	2.2000e-004	5.8000e-004	0.0000	4.1349	4.1349	3.0000e-005	0.0000	4.1355
Worker	1.4500e-003	2.0500e-003	0.0198	5.0000e-005	4.4200e-003	3.0000e-005	4.4600e-003	1.1800e-003	3.0000e-005	1.2100e-003	0.0000	3.6102	3.6102	1.7000e-004	0.0000	3.6139
Total	**3.3100e-003**	**0.0181**	**0.0430**	**1.0000e-004**	**5.7000e-003**	**2.7000e-004**	**5.9800e-003**	**1.5500e-003**	**2.5000e-004**	**1.7900e-003**	**0.0000**	**7.7450**	**7.7450**	**2.0000e-004**	**0.0000**	**7.7494**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8800e-003	0.0425	0.0209	7.0000e-005		1.3000e-003	1.3000e-003		1.2000e-003	1.2000e-003	0.0000	6.8402	6.8402	2.1300e-003	0.0000	6.8849
Total	**2.8800e-003**	**0.0425**	**0.0209**	**7.0000e-005**		**1.3000e-003**	**1.3000e-003**		**1.2000e-003**	**1.2000e-003**	**0.0000**	**6.8402**	**6.8402**	**2.1300e-003**	**0.0000**	**6.8849**

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	1.8600e-003	0.0160	0.0232	5.0000e-005	1.2800e-003	2.4000e-004	1.5200e-003	3.7000e-004	2.2000e-004	5.8000e-004	0.0000	4.1349	4.1349	3.0000e-005	0.0000	4.1355
Worker	1.4500e-003	2.0500e-003	0.0198	5.0000e-005	4.4200e-003	3.0000e-005	4.4600e-003	1.1800e-003	3.0000e-005	1.2100e-003	0.0000	3.6102	3.6102	1.7000e-004	0.0000	3.6139
Total	**3.3100e-003**	**0.0181**	**0.0430**	**1.0000e-004**	**5.7000e-003**	**2.7000e-004**	**5.9800e-003**	**1.5500e-003**	**2.5000e-004**	**1.7900e-003**	**0.0000**	**7.7450**	**7.7450**	**2.0000e-004**	**0.0000**	**7.7494**

3.7 Building Construction: Distribution Line - 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	3.5000e-004	4.4200e-003	2.1500e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.7466	0.7466	2.4000e-004	0.0000	0.7515
Total	**3.5000e-004**	**4.4200e-003**	**2.1500e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.7466**	**0.7466**	**2.4000e-004**	**0.0000**	**0.7515**

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	1.9000e-004	1.6300e-003	2.4500e-003	1.0000e-005	1.4000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4514	0.4514	0.0000	0.0000	0.4515
Worker	1.5000e-004	2.1000e-004	2.0000e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3867	0.3867	2.0000e-005	0.0000	0.3871
Total	**3.4000e-004**	**1.8400e-003**	**4.4500e-003**	**2.0000e-005**	**6.3000e-004**	**2.0000e-005**	**6.7000e-004**	**1.7000e-004**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**0.8381**	**0.8381**	**2.0000e-005**	**0.0000**	**0.8386**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9000e-004	4.2500e-003	2.2700e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.7466	0.7466	2.4000e-004	0.0000	0.7515
Total	**2.9000e-004**	**4.2500e-003**	**2.2700e-003**	**1.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.7466**	**0.7466**	**2.4000e-004**	**0.0000**	**0.7515**

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	1.9000e-004	1.6300e-003	2.4500e-003	1.0000e-005	1.4000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4514	0.4514	0.0000	0.0000	0.4515
Worker	1.5000e-004	2.1000e-004	2.0000e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3867	0.3867	2.0000e-005	0.0000	0.3871
Total	**3.4000e-004**	**1.8400e-003**	**4.4500e-003**	**2.0000e-005**	**6.3000e-004**	**2.0000e-005**	**6.7000e-004**	**1.7000e-004**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**0.8381**	**0.8381**	**2.0000e-005**	**0.0000**	**0.8386**

3.8 Building Construction: Overhead Lines - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6300e-003	0.0183	0.0133	3.0000e-005		9.7000e-004	9.7000e-004		8.9000e-004	8.9000e-004	0.0000	2.7323	2.7323	8.5000e-004	0.0000	2.7502
Total	**1.6300e-003**	**0.0183**	**0.0133**	**3.0000e-005**		**9.7000e-004**	**9.7000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**2.7323**	**2.7323**	**8.5000e-004**	**0.0000**	**2.7502**

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	4.1000e-004	3.5600e-003	5.1600e-003	1.0000e-005	2.8000e-004	5.0000e-005	3.4000e-004	8.0000e-005	5.0000e-005	1.3000e-004	0.0000	0.9189	0.9189	1.0000e-005	0.0000	0.9190
Worker	3.2000e-004	4.6000e-004	4.4000e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8023	0.8023	4.0000e-005	0.0000	0.8031
Total	**7.3000e-004**	**4.0200e-003**	**9.5600e-003**	**2.0000e-005**	**1.2600e-003**	**6.0000e-005**	**1.3300e-003**	**3.4000e-004**	**6.0000e-005**	**4.0000e-004**	**0.0000**	**1.7211**	**1.7211**	**5.0000e-005**	**0.0000**	**1.7221**

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	1.4700e-003	0.0188	0.0133	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.7323	2.7323	8.5000e-004	0.0000	2.7502
Total	**1.4700e-003**	**0.0188**	**0.0133**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.7323**	**2.7323**	**8.5000e-004**	**0.0000**	**2.7502**

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	4.1000e-004	3.5600e-003	5.1600e-003	1.0000e-005	2.8000e-004	5.0000e-005	3.4000e-004	8.0000e-005	5.0000e-005	1.3000e-004	0.0000	0.9189	0.9189	1.0000e-005	0.0000	0.9190
Worker	3.2000e-004	4.6000e-004	4.4000e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8023	0.8023	4.0000e-005	0.0000	0.8031
Total	**7.3000e-004**	**4.0200e-003**	**9.5600e-003**	**2.0000e-005**	**1.2600e-003**	**6.0000e-005**	**1.3300e-003**	**3.4000e-004**	**6.0000e-005**	**4.0000e-004**	**0.0000**	**1.7211**	**1.7211**	**5.0000e-005**	**0.0000**	**1.7221**

3.9 Trenching - 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	2.3300e-003	0.0234	0.0230	3.0000e-005		1.5600e-003	1.5600e-003		1.4400e-003	1.4400e-003	0.0000	2.7900	2.7900	8.8000e-004	0.0000	2.8085
Total	**2.3300e-003**	**0.0234**	**0.0230**	**3.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.4400e-003**	**1.4400e-003**	**0.0000**	**2.7900**	**2.7900**	**8.8000e-004**	**0.0000**	**2.8085**

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	8.0000e-005	1.2000e-004	1.1100e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2148	0.2148	1.0000e-005	0.0000	0.2150
Total	**8.0000e-005**	**1.2000e-004**	**1.1100e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2148**	**0.2148**	**1.0000e-005**	**0.0000**	**0.2150**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0400e-003	0.0256	0.0232	3.0000e-005		1.4500e-003	1.4500e-003		1.3600e-003	1.3600e-003	0.0000	2.7900	2.7900	8.8000e-004	0.0000	2.8085
Total	**2.0400e-003**	**0.0256**	**0.0232**	**3.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.3600e-003**	**1.3600e-003**	**0.0000**	**2.7900**	**2.7900**	**8.8000e-004**	**0.0000**	**2.8085**

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	8.0000e-005	1.2000e-004	1.1100e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2148	0.2148	1.0000e-005	0.0000	0.2150
Total	**8.0000e-005**	**1.2000e-004**	**1.1100e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2148**	**0.2148**	**1.0000e-005**	**0.0000**	**0.2150**

Project Name: Equinix Xilinx Site SV12, SV13, SV14

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size 191,000 s.f. Building SV12 — 18 total project acres disturbed

191,000 s.f. Building SV13

191,000 s.f. Building SV14

s.f. parking lot

Construction Hours am to pm

Note: this worksheet includes site work for all 18 acres occurs at beginning of project

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
								Vegetation Removal
	Site Preperation	**Start Date:**	**11/1/2016**	**Total phase:**	**10**			hauled material? **?** tons
		End Date:						
3	Rubber Tired Dozers	255	0.4	8		0	0	
4	Tractors/Loaders/Backhoes	97	0.37	8		0	0	
	Other Equipment?							
	Grading / Excavation	**Start Date:**		**Total phase:**	**30**			
		End Date:						**Soil Hauling Volume**
2	Excavators	162	0.38	8		0	0	Export volume = **?** cubic yards?
1	Graders	174	0.41	8		0	0	Import volume = **?** cubic yards?
1	Rubber Tired Dozers	255	0.4	8		0	0	
2	Scrapers	361	0.48	8				
2	Tractors/Loaders/Backhoes	97	0.37	8				
	Other Equipment?							

Project Name:	Constrtuction of SV12 Building							Complete ALL Portions in Yellow
	See Equipment Type TAB for type, horsepower and load factor							
	Project Size	191,000	s.f. Building	18	total project acres disturbed			
			s.f. parking lot					
	Construction Hours		am to		pm			
Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
								Vegetation Removal
	Constrtuction of SV12 Building							Export ____ cy
	Trenching/Fine Grading	Start Date:	11/1/2016	Total phase:	20			Material Import/Export
		End Date:						Import ____ cy
1	Tractor/Loader/Backhoe	97	0.37	8		0	0	Export ____ cy
1	Excavators	162	0.38	8		0		
	Other Equipment?							
	Building - Exterior	Start Date:		Total phase:	230			Cement Trucks? _?_ Total Round-Trips
		End Date:						
1	Cranes	226	0.29	7		#DIV/0!	0	Electric? (Y/N) ___ Otherwise assumed diesel
3	Forklifts	89	0.2	8		#DIV/0!	0	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8		#DIV/0!	0	Or temporary line power? (Y/N) ___
3	Tractors/Loaders/Backhoes	97	0.37	7		#DIV/0!	0	
1	Welders	46	0.45	8		#DIV/0!	0	
	Other Equipment?							
Building - Interior/Architectural Coating		Start Date:		Total phase:	20			
		End Date:						
1	Air Compressors	78	0.48	8		0	0	
1	Aerial Lift	62	0.31	8		0	0	
	Other Equipment?							
	Paving	Start Date:		Total phase:	20			
		Start Date:						
2	Pavers	125	0.42	8		0	0	Asphalt? ___ cubic yards or ____ round trips?
2	Paving Equipment	130	0.36	8		0	0	
2	Rollers	80	0.38	8		0	0	
	Other Equipment?							

Project Name:	Constrtuction of SV13 Building							Complete ALL Portions in Yellow
	See Equipment Type TAB for type, horsepower and load factor							
	Project Size	191,000	s.f. Building	18	total project acres disturbed			
			s.f. parking lot					
	Construction Hours		am to		pm			
Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
								Vegetation Removal
	Constrtuction of SV12 Building							Export ____ cy
	Trenching/Fine Grading	**Start Date:**	**5/1/2016**	**Total phase:**	**20**			Material Import/Export
		End Date:						Import ____ cy
1	Tractor/Loader/Backhoe	97	0.37	8		0	0	Export ____ cy
1	Excavators	162	0.38	8		0		
	Other Equipment?							
	Building - Exterior	**Start Date:**		**Total phase:**	**230**			**Cement Trucks? _?_ Total Round-Trips**
		End Date:						
1	Cranes	226	0.29	7		#DIV/0!	0	Electric? (Y/N) ___ Otherwise assumed diesel
3	Forklifts	89	0.2	8		#DIV/0!	0	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8		#DIV/0!	0	Or temporary line power? (Y/N) ___
3	Tractors/Loaders/Backhoes	97	0.37	7		#DIV/0!	0	
1	Welders	46	0.45	8		#DIV/0!	0	
	Other Equipment?							
Building - Interior/Architectural Coating		**Start Date:**		**Total phase:**	**20**			
		End Date:						
1	Air Compressors	78	0.48	8		0	0	
1	Aerial Lift	62	0.31	8		0	0	
	Other Equipment?							
	Paving	**Start Date:**		**Total phase:**	**20**			
		Start Date:						
2	Pavers	125	0.42	8		0	0	**Asphalt? ___ cubic yards or ____ round trips?**
2	Paving Equipment	130	0.36	8		0	0	
2	Rollers	80	0.38	8		0	0	
	Other Equipment?							

Project Name:	Constrtuction of SV14 Building							Complete ALL Portions in Yellow
	See Equipment Type TAB for type, horsepower and load factor							
	Project Size	191,000	s.f. Building	18	total project	acres disturbed		
			s.f. parking lot					
	Construction Hours		am to		pm			
Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
								Vegetation Removal
	Constrtuction of SV12 Building							Export ____ cy
	Trenching/Fine Grading	Start Date:	12/1/2016	Total phase:	20			Material Import/Export
		End Date:						Import ____ cy
1	Tractor/Loader/Backhoe	97	0.37	8		0	0	Export ____ cy
1	Excavators	162	0.38	8		0		
	Other Equipment?							
	Building - Exterior	Start Date:		Total phase:	230			Cement Trucks? _?_ Total Round-Trips
		End Date:						
1	Cranes	226	0.29	7		#DIV/0!	0	Electric? (Y/N) ___ Otherwise assumed diesel
3	Forklifts	89	0.2	8		#DIV/0!	0	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8		#DIV/0!	0	Or temporary line power? (Y/N) ___
3	Tractors/Loaders/Backhoes	97	0.37	7		#DIV/0!	0	
1	Welders	46	0.45	8		#DIV/0!	0	
	Other Equipment?							
Building - Interior/Architectural Coating		Start Date:		Total phase:	20			
		End Date:						
1	Air Compressors	78	0.48	8		0	0	
1	Aerial Lift	62	0.31	8		0	0	
	Other Equipment?							
	Paving	Start Date:		Total phase:	20			
		Start Date:						
2	Pavers	125	0.42	8		0	0	Asphalt? ___ cubic yards or ____ round trips?
2	Paving Equipment	130	0.36	8		0	0	
2	Rollers	80	0.38	8		0	0	
	Other Equipment?							

Typical Equipment Type & Load Factors		
OFFROAD Equipment Type	**Horsepower**	**Load Factor**
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37

Trenchers	80	0.5
Welders	46	0.45

Xilinx Data Center – Substation and Via Del Oro & Transmission/Conductor Lines
Note: All data are best estimates and based on preliminary substation design and similar substation projects. Actual dates will be based on permitting and resource availability

REQUIRED CONSTRUCTION INFORMATION FOR TAC ANALYSIS				
Construction Phase	**Equipment (*See next page for examples of commonly used equipment*)**	**Quantity**	**Hours Used Per Day**	**Number of Work Days**
Relocation of on-site Storage **Start Date:** 08/2018 **End Date**: 09/2018	• 1-ton Truck	1	8	20
	• Forklift	1	8	20
	•			
	•			
	•			
Site Preparation/ Site Grading **Start Date:** 09/2018 **End Date**: 11/2018	• D-3 Bulldozer	1	8	40
	• Water Truck	1	8	40
	• 1 –ton Truck	1	8	40
	• Dump Truck	1	8	40
	•			
Excavation of Foundations **Start Date:** 11/2018 **End Date**: 01/2019	• Crawler Backhoe	1	8	40
	• 1 –ton Truck	1	8	40
	• Dump Truck	1	8	40
	• Truck-mounted Digger	1	8	40
	•			
Trenching in Substation **Start Date:** 01/2019 **End Date**: 03/2019	• Crawler Backhoe	1	8	20
	• 1 –ton Truck	1	8	20
	• Dump Truck	1	8	20
	• Truck-mounted Digger	1	8	20
	•			
Building – Substation **Start Date:** 11/2018 **End Date**: 04/2019	• Cement Mixer or Concrete Truck	1	8	40
	• 50 to 70-ton crane	1	6	2
	• Line Truck	1	4	4
	• Wire Puller	1	2	2
	• Fork Lift	1	3	40
	• ¾ to 1-ton pickup trucks	3	3	8
Building – Overhead Transmission Line Extension, Install	• ¾ to 1-ton pickup trucks	3	3	5
	• 50 to 70-ton crane	1	4	1
	• Wire Puller	1	2	2
	• Bucket Truck	2	5	8

REQUIRED CONSTRUCTION INFORMATION FOR TAC ANALYSIS				
Construction Phase	**Equipment (*See next page for examples of commonly used equipment*)**	**Quantity**	**Hours Used Per Day**	**Number of Work Days**
TSPs **Start Date:** 11/2018 **End Date**: 04/2019	• Boom Truck	1	6	1
	• Lo-Drill	1	8	3
Building – Underground Distribution Line **Start Date:** 11/2018 **End Date**: 04/2019	• ¾ to 1-ton pickup trucks	3	3	40
	• Bore Rig	1	8	20
	• Crawler Backhoe	1	8	40
	• Crew Truck	2	8	40
	• Dump Truck	1	8	40
	•			
Paving Substation with Gravel **Start Date:** 09/2018 **End Date**: 11/2018	• Gravel Dump Truck	1	5	20
	• Roller	1	8	20
	•			
	•			
OTHER – Provide as Applicable				
Soil Hauling Volume	Export volume = __1,800___ cubic yards? Import volume = ___8,525_____ cubic yards?			
Demolition Volume	Square footage of buildings to be demolished, or total tons to be hauled. =_0__ square feet or =_0__ hauling volume (tons) Pavement demolished and hauled =_0_ tons			
Cement	Cement Trucks = 20 Total Round-Trips OR Cement =__ cubic yards Electric? (Y/N) _N__ Otherwise modelling assumes diesel Liquid Propane (LPG)? (Y/N) _N__Otherwise modelling assumes diesel Or temporary line power? (Y/N) _N__			
Asphalt	__0__ cy or _____ round trips			

Example of Equipment Commonly Used for Each Construction Phase
Demolition
Concrete/Industrial Saws
Excavators

Rubber-Tired Dozers
Site Preparation
Rubber Tired Dozers
Tractors/Loaders/Backhoes
Grading / Excavation
Excavators
Graders
Rubber Tired Dozers
Tractors/Loaders/Backhoes
Trenching
Tractor/Loader/Backhoe
Building - Exterior
Cranes
Forklifts
Generator Sets
Tractors/Loaders/Backhoes
Welders
Building – Interior/ Architectural Coating
Air Compressors
Aerial Lift
Paving
Cement and Mortar Mixers
Pavers
Paving Equipment
Rollers
Tractors/Loaders/Backhoes

Attachment 2: Operational Emissions

- **Data Center Emergency Generators Emission Calculations and Engine Data**
- **CalEEMod Operation Emission Output**

Power Generation

March 31, 2016

To Whom It May Concern:

With regards to Cummins Power Generation (CPG) manufactured diesel generator set model C3000D6e rated for 60 Hz operation and equipped with a Cummins QSK95-G9 engine:

When tested under the following conditions:

Fuel Specification:	40-48 Cetane Number, 0.03 -0.05 Wt.% Sulfur; Reference ISO8178-5, 40CFR86, 1313--98 Type 2-D and ASTM D975 No. 2-D.
Air Inlet Temperature :	25°C (77°F)
Fuel Inlet Temperature:	40°C (104°F)
Barometric Pressure:	100 kPa (29.53 in Hg)
Humidity:	NOx measurement corrected to 10.7 g/kg (75 grains H2O/lb) of dry air
Intake Restriction:	Set to maximum allowable limit for clean filter
Exhaust Back:	Pressure set to maximum allowable limit.

	Standby			
PERFORMANCE DATA	**100%**	**75%**	**50%**	**25%**
BHP @ 1800 RPM (60 Hz)	4307	3256	2206	1155
Fuel Consumption (Gal/Hr)	208	160	118	68
Exhaust Gas Flow (CFM)	23365	19695	16018	10028
Exhaust Gas Temperature (°F)	830	714	670	630
EXHAUST EMISSION DATA				
HC (Total Unburned Hydrocarbons)	0.07	0.10	0.18	0.30
NOx (Oxides of Nitrogen as NO2)	5.23	4.23	3.26	3.44
CO (Carbon Monoxide)	0.21	0.14	0.23	0.46
PM (Particular Matter)	0.045	0.058	0.100	0.207
SO2 (Sulfur Dioxide)	0.005	0.005	0.005	0.006
Smoke (FSN)	0.44	0.46	0.61	0.92
				All Values are Grams/HP-Hour

Steady-State emissions recorded per ISO8178-1 during operation at rated engine speed (+/-2%) and stated constant load (+/-2%) with engine temperatures, pressures and emission rates stabilized.

The NOx, HC, CO and PM emission data tabulated here are representative of test data taken from a single engine under the test conditions shown above. Data for the other components are estimated. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions,

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Power Generation

installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may results in elevated emission levels.

This letter does not supersede any of the commercial terms of sale, including, but not limited to, warranty coverage. For further questions on this product or application, please contact the local Cummins Power Generation distributor.

Best Regards,

Michael Sanford
Team Leader – Sales Application Engineering
North America/Caribbean
Cummins Power Generation
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Table 1a
Xilinx Data Center - Emergency Backup Generators
Emissions Per Data Center Building (7 Engines)
Emissions From Periodic Engine Testing with no Generator Load

Periodic Testing at Low Engine Load*

Manufacturer/Model	**Cummins**
Engine	**QSK95-G9**
Total No. Units	7
Generator Output (kW)	-
Load During Testing	25%
Engine Output (hp)	1,155
Fuel Use (gal/hr) at Load	68
Fuel Sulfur Content (%)	0.0015

Emission Testing Information

	Maximum Daily Testing	**Maximum** Annual Testing**
No. Units Tested. =	7	7
Test Duration/Unit (min) =	5	5
Tests per Period/Unit =	1	12
Operation./Unit (hours) =	0.08	1.0
Total Operation (hours) =	0.58	7.0

Pollutant	**Emission[1] Factor (g/hp-hr)**	**Emission Rate per Unit (lb/hr)**	**Operational Maximum Emissions per Unit**			**Operational - Total Emissions[2]**		
			Daily (lb/day)	**Annual (lb/yr)**	**Annual (ton/yr)**	**Daily Maximum (lb/day)**	**Annual Maximum (lb/yr)**	**Annual Maximum (ton/yr)**
NOx[1a]	3.44	8.76	0.73	8.76	0.004	5.11	61.3	0.03
HC[1a]	0.30	0.76	0.06	0.76	0.000	0.45	5.3	0.00
CO[1a]	0.46	1.17	0.10	1.17	0.001	0.68	8.2	0.00
PM10[1a]	0.21	0.53	0.044	0.53	0.0003	0.31	3.7	0.002
PM2.5[3]	0.19	0.49	0.041	0.49	0.0002	0.29	3.5	0.002
SOx[1a]	0.006	0.02	0.001	0.02	0.0000	0.009	0.1	0.000
CO_2[1b]	22.38 lb/gal	1,522	127	1,522	0.8	888	10,651	5

Notes: * Emissions at 25% engine load for 5 minutes per test with no generator load attached assumed for normal testing of engines

** Maximum annual testing based on 1 hour for periodic normal testing an low load per unit per year.

1) Based on manufacturer's data at 25% load.

1a) Cummins QSK95-G9 engine emissions and performance data at 25% load (Cummins Power Generation, March 31, 2016)

1b) CO_2 emission factor from California Climate Action Registry, General Reporting Protocol, Version 3.1, January 2009

2) Based on the number of units operating for the specified time period

3) Based on CARB CEIDERS PM profile for diesel IC engines, PM2.5 fraction of PM = 0.937

Table 1b
Xilinx Data Center - Emergency Backup Generators
Emissions Per Data Center Building (7 Engines)
Emissions From Periodic Generator Full Load Testing

Periodic Generator Full Load Testing*

Manufacturer/Model	**Cummins**
Engine	**QSK95-G9**
Total No. Units	7
Engine Operating Load	***100%***
Generator Output (kW)	3,000
Max Engine Output (hp)	4,307
Load During Testing	100%
Max Engine Output at Load (hp)	4,307
Fuel Use (gal/hr) at Load	208
Fuel Sulfur Content (%)	0.0015

Emission Testing Information

	Max. Daily Testing	**Maximum** Annual Testing**
No. Units Tested. =	7	7
Test Duration/Unit (min) =	240	60
Tests per Period/Unit =	1	15
Operation./Unit (hours) =	4	15
Total Operation (hours) =	28	105

Pollutant	**Emission[1] Factor (g/hp-hr)**	**Emission Rate per Unit (lb/hr)**	**Operational Maximum Emissions per Unit** Daily (lb/day)	Annual (lb/yr)	Annual (ton/yr)	**Operational - Total Emissions[2]** Daily Maximum (lb/day)	Annual (lb/yr)	Annual (ton/yr)
NO_x[1a]	5.23	49.66	198.64	744.9	0.37	1390.50	5,214.4	2.61
HC[1a]	0.10	0.95	3.80	14.2	0.01	26.59	99.7	0.05
CO[1a]	0.40	3.80	15.19	57.0	0.03	106.35	398.8	0.20
$PM10$[1a]	0.01	0.12	0.49	1.9	0.0009	3.46	13.0	0.006
$PM2.5$[3]	0.01	0.12	0.46	1.7	0.0009	3.24	12.1	0.006
SO_x[1a]	-	0.044	0.176	0.7	0.0003	1.23	4.6	0.0023
CO_2[1b]	22.38 lb/gal	4,654	18,617	69,815	34.9	130,322	488,707	244

Notes: * Emissions at 100% engine load for 1 hour per month plus an additional 3 hours at full load per year.
** Maximum annual generator load testing based on 15 hours of generator load testing per unit per year.
1) Based on manufacturer's data at 100% load.
1a) Cummins QSK95-G9 engine emissions and performance data at 100% load (Cummins Power Generation, March 31, 2016)
1b) CO_2 emission factor from California Climate Action Registry, General Reporting Protocol, Version 3.1, January 2009
2) Based on the number of units operating for the specified time period
3) Based on CARB CEIDERS PM profile for diesel IC engines, PM2.5 fraction of PM = 0.937

Table 1c
Xilinx Data Center - Emergency Backup Generators
Average Daily and Annual Emissions (21 Generators)

Pollutant	**Operational - Total Emissions (21 Generators)** Average* Daily (lb/day)	Annual (lb/yr)	Annual (ton/yr)
NOx	43.4	15,827	7.9
ROG	0.9	315	0.2
CO	3.3	1,221	0.6
PM10	0.1	50	0.02
PM2.5	0.1	47	0.02
SOx	0.04	14	0.01
CO_2	4104.3	1,498,075	749.0

* Average daily emissions calculated from total annual emissions and 365 days per year

Xilinx Data Center - Emergency Backup Generators
Emissions Per Data Center Building (7 Engines)
Emissions From Periodic Generator Full Load Testing
Operation for 50 Hours/Year at Full Load

Periodic Generator Full Load Testing*

Manufacturer/Model	**Cummins**
Engine	**QSK95-G9**
Total No. Units	7
Engine Operating Load	***100%***
Generator Output (kW)	3,000
Max Engine Output (hp)	4,307
Load During Testing	100%
Max Engine Output at Load (hp)	4,307
Fuel Use (gal/hr) at Load	208
Fuel Sulfur Content (%)	0.0015

Emission Testing Information

	Max. Daily Testing	**Maximum** Annual Testing**
No. Units Tested. =	7	7
Test Duration/Unit (min) =	60	60
Tests per Period/Unit =	1	50
Operation./Unit (hours) =	1	50
Total Operation (hours) =	7	350

Pollutant	**Emission[1] Factor (g/hp-hr)**	**Emission Rate per Unit (lb/hr)**	**Operational Maximum Emissions per Unit**			**Operational - Total Emissions[2]**		
			Daily (lb/day)	**Annual (lb/yr)**	**Annual (ton/yr)**	**Daily Maximum (lb/day)**	**Annual (lb/yr)**	**Annual (ton/yr)**
NOx[1a]	5.23	49.66	49.66	2483.0	1.24	347.63	17,381.3	8.69
HC[1a]	0.10	0.95	0.95	47.5	0.02	6.65	332.3	0.17
CO[1a]	0.40	3.80	3.80	189.9	0.09	26.59	1,329.4	0.66
PM10[1a]	0.01	0.12	0.12	6.2	0.0031	0.86	43.2	0.022
PM2.5[3]	0.01	0.12	0.12	5.8	0.0029	0.81	40.5	0.020
SOx[1a]	-	0.044	0.044	2.2	0.0011	0.31	15.4	0.0077
CO_2[1b]	22.38 lb/gal	4,654	4,654	232,718	116.4	32,580	1,629,023	815

Notes: * Emissions at 100% engine load for 50 hours per year.

** Maximum annual generator load testing based on 50 hours of generator load testing per unit per year.

1) Based on manufacturer's data at 100% load.

1a) Cummins QSK95-G9 engine emissions and performance data at 100% load (Cummins Power Generation, March 31, 2016)

1b) CO_2 emission factor from California Climate Action Registry, General Reporting Protocol, Version 3.1, January 2009

2) Based on the number of units operating for the specified time period

3) Based on CARB CEIDERS PM profile for diesel IC engines, PM2.5 fraction of PM = 0.937

Xilinx Data Center - Emergency Backup Generators
Operation for 50 Hours/Year at Full Load
Average Daily and Annual Emissions (21 Generators)

Pollutant	**Operational - Total Emissions (21 Generators)**		
	Average* Daily (lb/day)	**Annual (lb/yr)**	**Annual (ton/yr)**
NOx	142.9	52,144	26.1
ROG	2.7	997	0.5
CO	10.9	3,988	2.0
PM10	0.4	130	0.06
PM2.5	0.3	121	0.06
SOx	0.13	46	0.02
CO_2	13389.2	4,887,069	2443.5

* Average daily emissions calculated from total annual emissions and 365 days per year

Xilinx Data Center - Emergency Backup Generators
Emissions Per Data Center Building (7 Engines)
Emissions From Periodic Generator Full Load Testing
Operation for 16 Hours/Year at Full Load

Periodic Generator Full Load Testing*

Manufacturer/Model	**Cummins**
Engine	**QSK95-G9**
Total No. Units	7
Engine Operating Load	***100%***
Generator Output (kW)	3,000
Max Engine Output (hp)	4,307
Load During Testing	100%
Max Engine Output at Load (hp)	4,307
Fuel Use (gal/hr) at Load	208
Fuel Sulfur Content (%)	0.0015

Emission Testing Information

	Max. Daily Testing	**Maximum** Annual Testing**
No. Units Tested. =	7	7
Test Duration/Unit (min) =	60	60
Tests per Period/Unit =	1	16
Operation./Unit (hours) =	1	16
Total Operation (hours) =	7	112

Pollutant	**Emission[1] Factor (g/hp-hr)**	**Emission Rate per Unit (lb/hr)**	**Operational Maximum Emissions per Unit Daily (lb/day)**	**Annual (lb/yr)**	**Annual (ton/yr)**	**Operational - Total Emissions[2] Daily Maximum (lb/day)**	**Annual (lb/yr)**	**Annual (ton/yr)**
NO_x[1a]	5.23	49.66	49.66	794.6	0.40	347.63	5,562.0	2.78
HC[1a]	0.10	0.95	0.95	15.2	0.01	6.65	106.3	0.05
CO[1a]	0.40	3.80	3.80	60.8	0.03	26.59	425.4	0.21
PM10[1a]	0.01	0.12	0.12	2.0	0.0010	0.86	13.8	0.007
PM2.5[3]	0.01	0.12	0.12	1.9	0.0009	0.81	13.0	0.006
SO_x[1a]	-	0.044	0.044	0.7	0.0004	0.31	4.9	0.0025
CO_2[1b]	22.38 lb/gal	4,654	4,654	74,470	37.2	32,580	521,287	261

Notes: * Emissions at 100% engine load for 16 hours per year.

** Maximum annual generator load testing based on 16 hours of generator load testing per unit per year.

1) Based on manufacturer's data at 100% load.

1a) Cummins QSK95-G9 engine emissions and performance data at 100% load (Cummins Power Generation, March 31, 2016)

1b) CO_2 emission factor from California Climate Action Registry, General Reporting Protocol, Version 3.1, January 2009

2) Based on the number of units operating for the specified time period

3) Based on CARB CEIDERS PM profile for diesel IC engines, PM2.5 fraction of PM = 0.937

Xilinx Data Center - Emergency Backup Generators
Operation for 16 Hours/Year at Full Load
Average Daily and Annual Emissions (21 Generators)

Pollutant	**Operational - Total Emissions (21 Generators) Average* Daily (lb/day)**	**Annual (lb/yr)**	**Annual (ton/yr)**
NOx	45.7	16,686	8.3
ROG	0.9	319	0.2
CO	3.5	1,276	0.6
PM10	0.1	41	0.02
PM2.5	0.1	39	0.02
SOx	0.04	15	0.01
CO_2	4284.6	1,563,862	781.9

* Average daily emissions calculated from total annual emissions and 365 days per year

Xilinx Equinix, Operational, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	573.00	1000sqft	18.00	573,000.00	0
Parking Lot	299.00	Space	0.00	79,220.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioxidde Emission Intensity!

Land Use - From Site Plans

Construction Phase - For operational run

Trips and VMT -

Vehicle Trips - Trip Generation rate= 1.7 trip/ 1ksf (weekend trip generatin rate adjusted proportionally)

Energy Use - 30% reduction in title 24 values

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	1.00
tblEnergyUse	LightingElect	4.41	3.09
tblEnergyUse	T24E	7.46	5.22
tblEnergyUse	T24NG	17.16	12.01
tblEnergyUse	T24NG	0.00	0.62
tblLandUse	LandUseSquareFeet	119,600.00	79,220.00
tblLandUse	LotAcreage	13.15	18.00
tblLandUse	LotAcreage	2.69	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	2.49	0.61
tblVehicleTrips	SU_TR	0.73	0.19
tblVehicleTrips	WD_TR	6.96	1.70

2.0 Emissions Summary

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	2.8480	7.0000e-005	8.0600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0156	0.0156	4.0000e-005	0.0000	0.0165
Energy	0.0376	0.3414	0.2868	2.0500e-003		0.0260	0.0260		0.0260	0.0260	0.0000	2,188.5307	2,188.5307	0.1298	0.0322	2,201.2345
Mobile	0.3659	0.7991	3.7329	0.0102	0.7408	0.0122	0.7529	0.1980	0.0112	0.2093	0.0000	708.4113	708.4113	0.0259	0.0000	708.9544
Waste						0.0000	0.0000		0.0000	0.0000	144.2291	0.0000	144.2291	8.5237	0.0000	323.2268
Water						0.0000	0.0000		0.0000	0.0000	42.0381	139.7153	181.7534	4.3272	0.1039	304.8332
Total	**3.2514**	**1.1406**	**4.0277**	**0.0123**	**0.7408**	**0.0382**	**0.7789**	**0.1980**	**0.0372**	**0.2352**	**186.2673**	**3,036.6729**	**3,222.9402**	**13.0065**	**0.1361**	**3,538.2653**

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	2.8480	7.0000e-005	8.0600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0156	0.0156	4.0000e-005	0.0000	0.0165
Energy	0.0376	0.3414	0.2868	2.0500e-003		0.0260	0.0260		0.0260	0.0260	0.0000	2,188.5307	2,188.5307	0.1298	0.0322	2,201.2345
Mobile	0.3659	0.7991	3.7329	0.0102	0.7408	0.0122	0.7529	0.1980	0.0112	0.2093	0.0000	708.4113	708.4113	0.0259	0.0000	708.9544
Waste						0.0000	0.0000		0.0000	0.0000	144.2291	0.0000	144.2291	8.5237	0.0000	323.2268
Water						0.0000	0.0000		0.0000	0.0000	42.0381	139.7153	181.7534	4.3264	0.1037	304.7661
Total	**3.2514**	**1.1406**	**4.0277**	**0.0123**	**0.7408**	**0.0382**	**0.7789**	**0.1980**	**0.0372**	**0.2352**	**186.2673**	**3,036.6729**	**3,222.9402**	**13.0057**	**0.1359**	**3,538.1983**

	ROG	NOx	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**	**0.01**	**0.12**	**0.00**

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	0.3659	0.7991	3.7329	0.0102	0.7408	0.0122	0.7529	0.1980	0.0112	0.2093	0.0000	708.4113	708.4113	0.0259	0.0000	708.9544
Unmitigated	0.3659	0.7991	3.7329	0.0102	0.7408	0.0122	0.7529	0.1980	0.0112	0.2093	0.0000	708.4113	708.4113	0.0259	0.0000	708.9544

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	974.10	349.53	108.87	1,995,923	1,995,923
Parking Lot	0.00	0.00	0.00		
Total	974.10	349.53	108.87	1,995,923	1,995,923

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551785	0.058740	0.185183	0.122735	0.029388	0.004432	0.012603	0.023662	0.001776	0.001268	0.006159	0.000502	0.001767

5.0 Energy Detail

4.4 Fleet Mix

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	1,816.8397	1,816.8397	0.1227	0.0254	1,827.2814
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,816.8397	1,816.8397	0.1227	0.0254	1,827.2814
NaturalGas Mitigated	0.0376	0.3414	0.2868	2.0500e-003		0.0260	0.0260		0.0260	0.0260	0.0000	371.6910	371.6910	7.1200e-003	6.8100e-003	373.9531
NaturalGas Unmitigated	0.0376	0.3414	0.2868	2.0500e-003		0.0260	0.0260		0.0260	0.0260	0.0000	371.6910	371.6910	7.1200e-003	6.8100e-003	373.9531

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					
Parking Lot	49116.4	2.6000e-004	2.4100e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6210	2.6210	5.0000e-005	5.0000e-005	2.6370
Industrial Park	6.91611e+006	0.0373	0.3390	0.2848	2.0300e-003		0.0258	0.0258		0.0258	0.0258	0.0000	369.0700	369.0700	7.0700e-003	6.7700e-003	371.3161
Total		**0.0376**	**0.3414**	**0.2868**	**2.0400e-003**		**0.0260**	**0.0260**		**0.0260**	**0.0260**	**0.0000**	**371.6910**	**371.6910**	**7.1200e-003**	**6.8200e-003**	**373.9531**

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					
Parking Lot	49116.4	2.6000e-004	2.4100e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6210	2.6210	5.0000e-005	5.0000e-005	2.6370
Industrial Park	6.91611e+006	0.0373	0.3390	0.2848	2.0300e-003		0.0258	0.0258		0.0258	0.0258	0.0000	369.0700	369.0700	7.0700e-003	6.7700e-003	371.3161
Total		**0.0376**	**0.3414**	**0.2868**	**2.0400e-003**		**0.0260**	**0.0260**		**0.0260**	**0.0260**	**0.0000**	**371.6910**	**371.6910**	**7.1200e-003**	**6.8200e-003**	**373.9531**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	9.25395e+006	1,803.2551	0.1217	0.0252	1,813.6188
Parking Lot	69713.6	13.5846	9.2000e-004	1.9000e-004	13.6627
Total		**1,816.8397**	**0.1227**	**0.0254**	**1,827.2814**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	9.25395e+006	1,803.2551	0.1217	0.0252	1,813.6188
Parking Lot	69713.6	13.5846	9.2000e-004	1.9000e-004	13.6627
Total		**1,816.8397**	**0.1227**	**0.0254**	**1,827.2814**

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	2.8480	7.0000e-005	8.0600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0156	0.0156	4.0000e-005	0.0000	0.0165
Unmitigated	2.8480	7.0000e-005	8.0600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0156	0.0156	4.0000e-005	0.0000	0.0165

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	0.3000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.5473					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	8.0600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0156	0.0156	4.0000e-005	0.0000	0.0165
Total	**2.8480**	**7.0000e-005**	**8.0600e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0156**	**0.0156**	**4.0000e-005**	**0.0000**	**0.0165**

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	0.3000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.5473					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	8.0600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0156	0.0156	4.0000e-005	0.0000	0.0165
Total	**2.8480**	**7.0000e-005**	**8.0600e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0156**	**0.0156**	**4.0000e-005**	**0.0000**	**0.0165**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	181.7534	4.3264	0.1037	304.7661
Unmitigated	181.7534	4.3272	0.1039	304.8332

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	132.506 / 0	181.7534	4.3272	0.1039	304.8332
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**181.7534**	**4.3272**	**0.1039**	**304.8332**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	132.506 / 0	181.7534	4.3264	0.1037	304.7661
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**181.7534**	**4.3264**	**0.1037**	**304.7661**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	144.2291	8.5237	0.0000	323.2268
Mitigated	144.2291	8.5237	0.0000	323.2268

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	710.52	144.2291	8.5237	0.0000	323.2268
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**144.2291**	**8.5237**	**0.0000**	**323.2268**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	710.52	144.2291	8.5237	0.0000	323.2268
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**144.2291**	**8.5237**	**0.0000**	**323.2268**

9.0 Operational Offroad

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

10.0 Vegetation

Attachment 3: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[6] 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.[7] This HRA used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. While the OEHHA guidelines use substantially more conservative assumptions than the current Bay Area Air Quality Management District (BAAQMD) guidelines, BAAQMD has not formally adopted recommended procedures for applying the newest OEHHA guidelines. BAAQMD is in the process of developing new guidance and has developed proposed HRA Guidelines as part of the proposed amendments to Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[8] Exposure parameters from the OEHHA guidelines and newly proposed 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. BAAQMD recommends using these FAH factors for residential exposures.

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

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

Where:

[6] 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.

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

[8] BAAQMD, 2016. *Workshop Report. Proposed Amendments to Air District Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Appendix C. Proposed Air District HRA Guidelines.* January 2016.

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

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

Where:

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

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

Parameter	*Exposure Type →*	Infant		Child	Adult
	Age Range →	**3rd Trimester**	**0<2**	**2 < 16**	**16 - 30**
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	572	261
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14
Exposure Frequency (days/year)		350	350	350	350
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home		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 4: Construction Health Risk Assessment

- **Dispersion Modeling and Emissions Rates**
- **Cancer Risk Calculations**
- **CalEEMod On- and Near Site Emissions Output**

Xilinx SV-12, SV-13 and SV-14, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction 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 ($g/s/m^2$)
2016	Site Preparation	0.0694	PREP_DPM	138.9	0.04228	5.33E-03	74,168	7.18E-08
	SV-12 Const	0.0293	SV12_DPM	58.6	0.01785	2.25E-03	22,433	1.00E-07
	Subtotal	*0.0988*		*197.5*	*0.06013*	*7.58E-03*		
2017	SV-12 Const	0.2049	SV12_DPM	409.8	0.12476	1.57E-02	22,433	7.01E-07
	SV-13 Const	0.0030	SV13_DPM	6.1	0.00185	2.33E-04	30,258	7.69E-09
	Subtotal	*0.2079*		*415.9*	*0.12661*	*1.60E-02*		
2018	SV-13 Const	0.1845	SV13_DPM	369.1	0.11234	1.42E-02	30,258	4.68E-07
2019	SV-13 Const	0.0062	SV13_DPM	12.3	0.00375	4.73E-04	30,258	1.56E-08
	SV-14 Const	0.1541	SV14_DPM	308.2	0.09382	1.18E-02	21,356	5.54E-07
	Subtotal	*0.1603*		*320.5*	*0.09757*	*1.23E-02*		
2020	SV-14 Const	0.0116	SV14_DPM	23.1	0.00705	8.88E-04	21,356	4.16E-08
Total		**0.6631**		**1326**	**0.4037**	**0.0509**		
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

PM2.5 Fugitive Dust Construction Emissions for Modeling

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2016	Site Preparation	PREP_FUG	0.1142	228.4	0.06953	8.76E-03	74,168	1.18E-07
	SV-12 Const	SV12_FUG	0.0002	0.4	0.00011	1.44E-05	22,433	6.41E-10
	Subtotal		*0.1144*	*228.8*	*0.06964*	*8.77E-03*		
2017	SV-12 Const	SV12_FUG	0.0016	3.2	0.00098	1.23E-04	22,433	5.50E-09
	SV-13 Const	SV13_FUG	0.0000	0.0	0.00000	0.00E+00	30,258	0.00E+00
	Subtotal		*0.0016*	*3.2*	*0.00098*	*1.23E-04*		
2018	SV-13 Const	SV13_FUG	0.0018	3.6	0.00109	1.37E-04	30,258	4.53E-09
2019	SV-13 Const	SV13_FUG	0.0000	0.0	0.00001	8.46E-07	30,258	2.79E-11
	SV-14 Const	SV14_FUG	0.0018	3.6	0.00111	1.40E-04	21,356	6.53E-09
	Subtotal		*0.0018*	*3.7*	*0.00111*	*1.40E-04*		
2020	SV-14 Const	SV14_FUG	0.0001	0.1	0.00004	5.07E-06	21,356	2.38E-10
Total			**0.1197**	**239.4**	**0.0729**	**0.0092**		
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

Xilinx SV-12, SV-13 and SV-14, San Jose, CA - Construction Impacts
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meters

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					
			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*	2016	0.0059	10	0.08	2016	0.0059	-	-	-	-
1	1	0 - 1	2016	0.0059	10	0.97	2016	0.0059	1	0.02	0.0060	0.012
2	1	1 - 2	2017	0.0181	10	2.97	2017	0.0181	1	0.05	0.0001	0.018
3	1	2 - 3	2018	0.0094	3	0.24	2018	0.0094	1	0.03	0.0001	0.009
4	1	3 - 4		0.0070	3	0.18	2019	0.0070	1	0.02	0.0001	0.007
5	1	4 - 5		0.0005	3	0.01	2020	0.0005	1	0.00	0.0000	0.001
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**4.5**				**0.1**		

* Third trimester of pregnancy

Santa Teresa Substation, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction 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 ($g/s/m^2$)
2018	Substation	0.01168	SUB_DPM	23.4	0.00711	8.96E-04	8,477	1.06E-07
2019	Substation	0.00171	SUB_DPM	3.4	0.00104	1.31E-04	8,477	1.55E-08
Total		**0.0134**		**26.8**	**0.0082**	**0.0010**		
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

PM2.5 Fugitive Dust Construction Emissions for Modeling

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2018	Substation	SUB_FUG	0.01675	33.5	0.01020	1.29E-03	8,477	1.52E-07
2019	Substation	SUB_FUG	0.00002	0.0	0.00001	1.69E-06	8,477	2.00E-10
Total			**0.0168**	**33.6**	**0.0102**	**0.0013**		
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

Santa Teresa Substation, San Jose, CA - Construction Impacts
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meters

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*		-	10	-	-	-	-	-	-	-
1	1	0 - 1	2018	0.0008	10	0.13	2018	0.0008	1	0.00	0.0012	0.002
2	1	1 - 2	2019	0.0001	10	0.02	2019	0.0001	1	0.00	0.0000	0.000
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						**0.1**				**0.0**		

* Third trimester of pregnancy

Equinix Xilinx, Site Work, TAC

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	573.00	1000sqft	18.00	573,000.00	0
Parking Lot	299.00	Space	0.00	79,220.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioxide Emission Intensity Standard

Land Use - From Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment -

Off-road Equipment -

Trips and VMT - For TAC, trip distance=0.5mile

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblLandUse	LandUseSquareFeet	119,600.00	79,220.00
tblLandUse	LotAcreage	13.15	18.00
tblLandUse	LotAcreage	2.69	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50

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					
2016	0.1236	1.3957	0.9464	1.1200e-003	0.2206	0.0685	0.2890	0.1036	0.0630	0.1666	0.0000	105.9353	105.9353	0.0319	0.0000	106.6055
Total	**0.1236**	**1.3957**	**0.9464**	**1.1200e-003**	**0.2206**	**0.0685**	**0.2890**	**0.1036**	**0.0630**	**0.1666**	**0.0000**	**105.9353**	**105.9353**	**0.0319**	**0.0000**	**106.6055**

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					
2016	0.0356	0.9366	0.6899	1.1200e-003	0.0993	0.0255	0.1248	0.0234	0.0255	0.0488	0.0000	105.9352	105.9352	0.0319	0.0000	106.6053
Total	**0.0356**	**0.9366**	**0.6899**	**1.1200e-003**	**0.0993**	**0.0255**	**0.1248**	**0.0234**	**0.0255**	**0.0488**	**0.0000**	**105.9352**	**105.9352**	**0.0319**	**0.0000**	**106.6053**

	ROG	NOx	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	**71.22**	**32.89**	**27.10**	**0.00**	**54.96**	**62.78**	**56.82**	**77.47**	**59.54**	**70.69**	**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	11/1/2016	11/14/2016	5	10	
2	Grading	Grading	11/15/2016	12/26/2016	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	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
Site Preparation	7	18.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2016

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4386	18.4386	5.5600e-003	0.0000	18.5554
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0903**	**0.0147**	**0.1050**	**0.0497**	**0.0135**	**0.0632**	**0.0000**	**18.4386**	**18.4386**	**5.5600e-003**	**0.0000**	**18.5554**

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	2.4000e-004	7.0000e-005	8.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0469	0.0469	0.0000	0.0000	0.0470
Total	**2.4000e-004**	**7.0000e-005**	**8.7000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0469**	**0.0469**	**0.0000**	**0.0000**	**0.0470**

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					0.0407	0.0000	0.0407	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1500e-003	0.1721	0.1170	2.0000e-004		4.8100e-003	4.8100e-003		4.8100e-003	4.8100e-003	0.0000	18.4385	18.4385	5.5600e-003	0.0000	18.5553
Total	**6.1500e-003**	**0.1721**	**0.1170**	**2.0000e-004**	**0.0407**	**4.8100e-003**	**0.0455**	**0.0112**	**4.8100e-003**	**0.0160**	**0.0000**	**18.4385**	**18.4385**	**5.5600e-003**	**0.0000**	**18.5553**

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	2.4000e-004	7.0000e-005	8.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0469	0.0469	0.0000	0.0000	0.0470
Total	**2.4000e-004**	**7.0000e-005**	**8.7000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0469**	**0.0469**	**0.0000**	**0.0000**	**0.0470**

3.3 Grading - 2016

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0972	1.1222	0.7371	9.3000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	87.2936	87.2936	0.0263	0.0000	87.8465
Total	**0.0972**	**1.1222**	**0.7371**	**9.3000e-004**	**0.1301**	**0.0538**	**0.1839**	**0.0540**	**0.0495**	**0.1034**	**0.0000**	**87.2936**	**87.2936**	**0.0263**	**0.0000**	**87.8465**

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	8.0000e-004	2.2000e-004	2.9000e-003	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1563	0.1563	1.0000e-005	0.0000	0.1566
Total	**8.0000e-004**	**2.2000e-004**	**2.9000e-003**	**0.0000**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1563**	**0.1563**	**1.0000e-005**	**0.0000**	**0.1566**

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					0.0586	0.0000	0.0586	0.0121	0.0000	0.0121	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0284	0.7642	0.5692	9.3000e-004		0.0207	0.0207		0.0207	0.0207	0.0000	87.2935	87.2935	0.0263	0.0000	87.8464
Total	**0.0284**	**0.7642**	**0.5692**	**9.3000e-004**	**0.0586**	**0.0207**	**0.0792**	**0.0121**	**0.0207**	**0.0328**	**0.0000**	**87.2935**	**87.2935**	**0.0263**	**0.0000**	**87.8464**

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	8.0000e-004	2.2000e-004	2.9000e-003	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1563	0.1563	1.0000e-005	0.0000	0.1566
Total	**8.0000e-004**	**2.2000e-004**	**2.9000e-003**	**0.0000**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1563**	**0.1563**	**1.0000e-005**	**0.0000**	**0.1566**

Xilinx Equinix, SV-12, TAC, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	191.00	1000sqft	2.93	191,000.00	0
Parking Lot	86.00	Space	0.00	22,786.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioixde Emission Intensity

Land Use - From Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Trips and VMT - For TAC, trip lengths= 0.5 mile

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	220.00	230.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	10.00	20.00
tblLandUse	LandUseSquareFeet	34,400.00	22,786.00
tblLandUse	LotAcreage	4.38	2.93
tblLandUse	LotAcreage	0.77	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50

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					

2016	0.0547	0.4307	0.3393	4.3000e-004	6.2000e-004	0.0284	0.0290	1.7000e-004	0.0266	0.0267	0.0000	38.8100	38.8100	9.6700e-003	0.0000	39.0131
2017	1.3924	3.0536	2.5134	3.2300e-003	5.2900e-003	0.1981	0.2034	1.4600e-003	0.1859	0.1874	0.0000	287.5368	287.5368	0.0685	0.0000	288.9742
Total	**1.4471**	**3.4843**	**2.8527**	**3.6600e-003**	**5.9100e-003**	**0.2265**	**0.2324**	**1.6300e-003**	**0.2125**	**0.2141**	**0.0000**	**326.3468**	**326.3468**	**0.0781**	**0.0000**	**327.9873**

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					
2016	0.0285	0.3700	0.3419	4.3000e-004	6.2000e-004	0.0140	0.0146	1.7000e-004	0.0140	0.0142	0.0000	38.8099	38.8099	9.6700e-003	0.0000	39.0130
2017	1.2117	2.7518	2.5454	3.2300e-003	5.2900e-003	0.1042	0.1095	1.4600e-003	0.1041	0.1056	0.0000	287.5365	287.5365	0.0685	0.0000	288.9739
Total	**1.2402**	**3.1218**	**2.8873**	**3.6600e-003**	**5.9100e-003**	**0.1182**	**0.1241**	**1.6300e-003**	**0.1181**	**0.1198**	**0.0000**	**326.3464**	**326.3464**	**0.0781**	**0.0000**	**327.9869**

	ROG	NOx	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	**14.30**	**10.40**	**-1.21**	**0.00**	**0.00**	**47.81**	**46.59**	**0.00**	**44.41**	**44.08**	**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	Grading	Grading	11/1/2016	11/28/2016	5	20	
2	Building Construction	Building Construction	11/29/2016	10/16/2017	5	230	
3	Architectural Coating	Architectural Coating	10/17/2017	11/13/2017	5	20	
4	Paving	Paving	11/14/2017	12/11/2017	5	20	

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: 287,525; Non-Residential Outdoor: 95,842 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Aerial Lifts	1	8.00	62	0.31
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36

Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	2	5.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Building Construction	9	90.00	35.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	18.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2016

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	7.2900e-003	0.0769	0.0584	8.0000e-005		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	7.9251	7.9251	2.3900e-003	0.0000	7.9753
Total	**7.2900e-003**	**0.0769**	**0.0584**	**8.0000e-005**	**0.0000**	**4.6900e-003**	**4.6900e-003**	**0.0000**	**4.3100e-003**	**4.3100e-003**	**0.0000**	**7.9251**	**7.9251**	**2.3900e-003**	**0.0000**	**7.9753**

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	1.3000e-004	4.0000e-005	4.8000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0261	0.0261	0.0000	0.0000	0.0261
Total	**1.3000e-004**	**4.0000e-005**	**4.8000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0261**	**0.0261**	**0.0000**	**0.0000**	**0.0261**

Mitigated Construction On-Site

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

Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5200e-003	0.0753	0.0636	8.0000e-005		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	7.9251	7.9251	2.3900e-003	0.0000	7.9753
Total	**3.5200e-003**	**0.0753**	**0.0636**	**8.0000e-005**	**0.0000**	**2.6100e-003**	**2.6100e-003**	**0.0000**	**2.6100e-003**	**2.6100e-003**	**0.0000**	**7.9251**	**7.9251**	**2.3900e-003**	**0.0000**	**7.9753**

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	1.3000e-004	4.0000e-005	4.8000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0261	0.0261	0.0000	0.0000	0.0261
Total	**1.3000e-004**	**4.0000e-005**	**4.8000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0261**	**0.0261**	**0.0000**	**0.0000**	**0.0261**

3.3 Building Construction - 2016

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	0.0409	0.3421	0.2221	3.2000e-004		0.0236	0.0236		0.0222	0.0222	0.0000	29.0584	29.0584	7.2100e-003	0.0000	29.2098
Total	**0.0409**	**0.3421**	**0.2221**	**3.2000e-004**		**0.0236**	**0.0236**		**0.0222**	**0.0222**	**0.0000**	**29.0584**	**29.0584**	**7.2100e-003**	**0.0000**	**29.2098**

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	3.5200e-003	0.0110	0.0479	1.0000e-005	2.0000e-004	7.0000e-005	2.7000e-004	6.0000e-005	7.0000e-005	1.2000e-004	0.0000	1.2377	1.2377	2.0000e-005	0.0000	1.2381
Worker	2.8600e-003	7.8000e-004	0.0105	1.0000e-005	4.1000e-004	1.0000e-005	4.2000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.5626	0.5626	5.0000e-005	0.0000	0.5637
Total	**6.3800e-003**	**0.0117**	**0.0584**	**2.0000e-005**	**6.1000e-004**	**8.0000e-005**	**6.9000e-004**	**1.7000e-004**	**8.0000e-005**	**2.4000e-004**	**0.0000**	**1.8004**	**1.8004**	**7.0000e-005**	**0.0000**	**1.8018**

Mitigated Construction On-Site

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

Off-Road	0.0184	0.2829	0.2195	3.2000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	29.0584	29.0584	7.2100e-003	0.0000	29.2097
Total	**0.0184**	**0.2829**	**0.2195**	**3.2000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**29.0584**	**29.0584**	**7.2100e-003**	**0.0000**	**29.2097**

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	3.5200e-003	0.0110	0.0479	1.0000e-005	2.0000e-004	7.0000e-005	2.7000e-004	6.0000e-005	7.0000e-005	1.2000e-004	0.0000	1.2377	1.2377	2.0000e-005	0.0000	1.2381
Worker	2.8600e-003	7.8000e-004	0.0105	1.0000e-005	4.1000e-004	1.0000e-005	4.2000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.5626	0.5626	5.0000e-005	0.0000	0.5637
Total	**6.3800e-003**	**0.0117**	**0.0584**	**2.0000e-005**	**6.1000e-004**	**8.0000e-005**	**6.9000e-004**	**1.7000e-004**	**8.0000e-005**	**2.4000e-004**	**0.0000**	**1.8004**	**1.8004**	**7.0000e-005**	**0.0000**	**1.8018**

3.3 Building Construction - 2017

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	0.3195	2.7198	1.8673	2.7600e-003		0.1835	0.1835		0.1723	0.1723	0.0000	246.6635	246.6635	0.0607	0.0000	247.9384
Total	**0.3195**	**2.7198**	**1.8673**	**2.7600e-003**		**0.1835**	**0.1835**		**0.1723**	**0.1723**	**0.0000**	**246.6635**	**246.6635**	**0.0607**	**0.0000**	**247.9384**

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	0.0259	0.0875	0.3796	1.2000e-004	1.6800e-003	5.2000e-004	2.2000e-003	4.9000e-004	4.8000e-004	9.7000e-004	0.0000	10.4311	10.4311	1.5000e-004	0.0000	10.4343
Worker	0.0227	6.0000e-003	0.0806	6.0000e-005	3.4900e-003	1.0000e-004	3.5900e-003	9.4000e-004	9.0000e-005	1.0300e-003	0.0000	4.6466	4.6466	4.1000e-004	0.0000	4.6551
Total	**0.0486**	**0.0935**	**0.4602**	**1.8000e-004**	**5.1700e-003**	**6.2000e-004**	**5.7900e-003**	**1.4300e-003**	**5.7000e-004**	**2.0000e-003**	**0.0000**	**15.0776**	**15.0776**	**5.6000e-004**	**0.0000**	**15.0893**

Mitigated Construction On-Site

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

Off-Road	0.1517	2.4217	1.8778	2.7600e-003		0.0955	0.0955		0.0955	0.0955	0.0000	246.6632	246.6632	0.0607	0.0000	247.9381
Total	**0.1517**	**2.4217**	**1.8778**	**2.7600e-003**		**0.0955**	**0.0955**		**0.0955**	**0.0955**	**0.0000**	**246.6632**	**246.6632**	**0.0607**	**0.0000**	**247.9381**

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	0.0259	0.0875	0.3796	1.2000e-004	1.6800e-003	5.2000e-004	2.2000e-003	4.9000e-004	4.8000e-004	9.7000e-004	0.0000	10.4311	10.4311	1.5000e-004	0.0000	10.4343
Worker	0.0227	6.0000e-003	0.0806	6.0000e-005	3.4900e-003	1.0000e-004	3.5900e-003	9.4000e-004	9.0000e-005	1.0300e-003	0.0000	4.6466	4.6466	4.1000e-004	0.0000	4.6551
Total	**0.0486**	**0.0935**	**0.4602**	**1.8000e-004**	**5.1700e-003**	**6.2000e-004**	**5.7900e-003**	**1.4300e-003**	**5.7000e-004**	**2.0000e-003**	**0.0000**	**15.0776**	**15.0776**	**5.6000e-004**	**0.0000**	**15.0893**

3.4 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9995					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9100e-003	0.0372	0.0357	6.0000e-005		2.5900e-003	2.5900e-003		2.5700e-003	2.5700e-003	0.0000	4.9368	4.9368	8.3000e-004	0.0000	4.9543
Total	**1.0044**	**0.0372**	**0.0357**	**6.0000e-005**		**2.5900e-003**	**2.5900e-003**		**2.5700e-003**	**2.5700e-003**	**0.0000**	**4.9368**	**4.9368**	**8.3000e-004**	**0.0000**	**4.9543**

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	4.4000e-004	1.2000e-004	1.5700e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0902	0.0902	1.0000e-005	0.0000	0.0904
Total	**4.4000e-004**	**1.2000e-004**	**1.5700e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0902**	**0.0902**	**1.0000e-005**	**0.0000**	**0.0904**

Mitigated Construction On-Site

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

Archit. Coating	0.9995					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0000e-003	0.0394	0.0352	6.0000e-005		1.5500e-003	1.5500e-003		1.5300e-003	1.5300e-003	0.0000	4.9368	4.9368	8.3000e-004	0.0000	4.9542
Total	**1.0015**	**0.0394**	**0.0352**	**6.0000e-005**		**1.5500e-003**	**1.5500e-003**		**1.5300e-003**	**1.5300e-003**	**0.0000**	**4.9368**	**4.9368**	**8.3000e-004**	**0.0000**	**4.9542**

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	4.4000e-004	1.2000e-004	1.5700e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0902	0.0902	1.0000e-005	0.0000	0.0904
Total	**4.4000e-004**	**1.2000e-004**	**1.5700e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0902**	**0.0902**	**1.0000e-005**	**0.0000**	**0.0904**

3.5 Paving - 2017

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	0.0191	0.2030	0.1473	2.2000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	20.6934	20.6934	6.3400e-003	0.0000	20.8266
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0191**	**0.2030**	**0.1473**	**2.2000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**20.6934**	**20.6934**	**6.3400e-003**	**0.0000**	**20.8266**

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	3.7000e-004	1.0000e-004	1.3000e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0752	0.0752	1.0000e-005	0.0000	0.0753
Total	**3.7000e-004**	**1.0000e-004**	**1.3000e-003**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0752**	**0.0752**	**1.0000e-005**	**0.0000**	**0.0753**

Mitigated Construction On-Site

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

Off-Road	9.1200e-003	0.1970	0.1693	2.2000e-004		6.5400e-003	6.5400e-003		6.5400e-003	6.5400e-003	0.0000	20.6934	20.6934	6.3400e-003	0.0000	20.8265
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1200e-003**	**0.1970**	**0.1693**	**2.2000e-004**		**6.5400e-003**	**6.5400e-003**		**6.5400e-003**	**6.5400e-003**	**0.0000**	**20.6934**	**20.6934**	**6.3400e-003**	**0.0000**	**20.8265**

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	3.7000e-004	1.0000e-004	1.3000e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0752	0.0752	1.0000e-005	0.0000	0.0753
Total	**3.7000e-004**	**1.0000e-004**	**1.3000e-003**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0752**	**0.0752**	**1.0000e-005**	**0.0000**	**0.0753**

SV13, TAC, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	191.00	1000sqft	2.93	191,000.00	0
Parking Lot	86.00	Space	0.00	22,786.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioxide Emission Intensity

Land Use - From the Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Trips and VMT - for TAC, trip distance= 0.5 miles

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	220.00	230.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	10.00	20.00
tblLandUse	LandUseSquareFeet	34,400.00	22,786.00
tblLandUse	LotAcreage	4.38	2.93
tblLandUse	LotAcreage	0.77	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50

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					

2017	4.8400e-003	0.0495	0.0410	6.0000e-005	1.0000e-005	2.9900e-003	3.0000e-003	0.0000	2.7500e-003	2.7500e-003	0.0000	5.4758	5.4758	1.6700e-003	0.0000	5.5109
2018	1.3659	2.8667	2.5872	3.4300e-003	5.8600e-003	0.1781	0.1839	1.6200e-003	0.1674	0.1690	0.0000	301.1354	301.1354	0.0703	0.0000	302.6120
2019	0.0109	0.1121	0.1085	1.7000e-004	4.0000e-005	6.0700e-003	6.1100e-003	1.0000e-005	5.5900e-003	5.6000e-003	0.0000	15.0820	15.0820	4.7600e-003	0.0000	15.1819
Total	**1.3817**	**3.0282**	**2.7368**	**3.6600e-003**	**5.9100e-003**	**0.1871**	**0.1930**	**1.6300e-003**	**0.1758**	**0.1774**	**0.0000**	**321.6931**	**321.6931**	**0.0768**	**0.0000**	**323.3049**

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					
2017	2.5500e-003	0.0528	0.0448	6.0000e-005	1.0000e-005	1.8200e-003	1.8400e-003	0.0000	1.8200e-003	1.8300e-003	0.0000	5.4758	5.4758	1.6700e-003	0.0000	5.5109
2018	1.2168	2.9050	2.6692	3.4300e-003	5.8600e-003	0.1095	0.1154	1.6200e-003	0.1094	0.1111	0.0000	301.1351	301.1351	0.0703	0.0000	302.6117
2019	7.0800e-003	0.1478	0.1278	1.7000e-004	4.0000e-005	4.9100e-003	4.9500e-003	1.0000e-005	4.9100e-003	4.9200e-003	0.0000	15.0819	15.0819	4.7600e-003	0.0000	15.1819
Total	**1.2264**	**3.1055**	**2.8418**	**3.6600e-003**	**5.9100e-003**	**0.1162**	**0.1222**	**1.6300e-003**	**0.1162**	**0.1178**	**0.0000**	**321.6928**	**321.6928**	**0.0768**	**0.0000**	**323.3045**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**11.24**	**-2.55**	**-3.84**	**0.00**	**0.00**	**37.88**	**36.72**	**0.00**	**33.90**	**33.59**	**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	Grading	Grading	12/12/2017	1/8/2018	5	20	
2	Building Construction	Building Construction	1/9/2018	11/26/2018	5	230	
3	Architectural Coating	Architectural Coating	11/27/2018	12/24/2018	5	20	
4	Paving	Paving	12/25/2018	1/21/2019	5	20	

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: 287,525; Non-Residential Outdoor: 95,842 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Aerial Lifts	1	8.00	62	0.31
Architectural Coating	Air Compressors	1	8.00	78	0.48

Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	2	5.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Building Construction	9	90.00	35.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	18.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2017

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	4.7500e-003	0.0494	0.0407	6.0000e-005		2.9900e-003	2.9900e-003		2.7500e-003	2.7500e-003	0.0000	5.4583	5.4583	1.6700e-003	0.0000	5.4934
Total	**4.7500e-003**	**0.0494**	**0.0407**	**6.0000e-005**	**0.0000**	**2.9900e-003**	**2.9900e-003**	**0.0000**	**2.7500e-003**	**2.7500e-003**	**0.0000**	**5.4583**	**5.4583**	**1.6700e-003**	**0.0000**	**5.4934**

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	9.0000e-005	2.0000e-005	3.0000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0175	0.0175	0.0000	0.0000	0.0176
Total	**9.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0175**	**0.0175**	**0.0000**	**0.0000**	**0.0176**

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	2.4600e-003	0.0527	0.0445	6.0000e-005		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	5.4582	5.4582	1.6700e-003	0.0000	5.4934
Total	**2.4600e-003**	**0.0527**	**0.0445**	**6.0000e-005**	**0.0000**	**1.8200e-003**	**1.8200e-003**	**0.0000**	**1.8200e-003**	**1.8200e-003**	**0.0000**	**5.4582**	**5.4582**	**1.6700e-003**	**0.0000**	**5.4934**

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	9.0000e-005	2.0000e-005	3.0000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0175	0.0175	0.0000	0.0000	0.0176
Total	**9.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0175**	**0.0175**	**0.0000**	**0.0000**	**0.0176**

3.2 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6900e-003	0.0174	0.0171	3.0000e-005		1.0200e-003	1.0200e-003		9.4000e-004	9.4000e-004	0.0000	2.3011	2.3011	7.2000e-004	0.0000	2.3162
Total	**1.6900e-003**	**0.0174**	**0.0171**	**3.0000e-005**	**0.0000**	**1.0200e-003**	**1.0200e-003**	**0.0000**	**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.3011**	**2.3011**	**7.2000e-004**	**0.0000**	**2.3162**

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	1.0000e-005	1.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	7.2400e-003	7.2400e-003	0.0000	0.0000	7.2500e-003
Total	**3.0000e-005**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**7.2400e-003**	**7.2400e-003**	**0.0000**	**0.0000**	**7.2500e-003**

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	1.0600e-003	0.0226	0.0191	3.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	2.3011	2.3011	7.2000e-004	0.0000	2.3162
Total	**1.0600e-003**	**0.0226**	**0.0191**	**3.0000e-005**	**0.0000**	**7.8000e-004**	**7.8000e-004**	**0.0000**	**7.8000e-004**	**7.8000e-004**	**0.0000**	**2.3011**	**2.3011**	**7.2000e-004**	**0.0000**	**2.3162**

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	1.0000e-005	1.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	7.2400e-003	7.2400e-003	0.0000	0.0000	7.2500e-003
Total	**3.0000e-005**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**7.2400e-003**	**7.2400e-003**	**0.0000**	**0.0000**	**7.2500e-003**

3.3 Building Construction - 2018

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	0.3069	2.6750	2.0163	3.0800e-003		0.1718	0.1718		0.1616	0.1616	0.0000	272.2851	272.2851	0.0666	0.0000	273.6844
Total	**0.3069**	**2.6750**	**2.0163**	**3.0800e-003**		**0.1718**	**0.1718**		**0.1616**	**0.1616**	**0.0000**	**272.2851**	**272.2851**	**0.0666**	**0.0000**	**273.6844**

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	0.0254	0.0915	0.3993	1.4000e-004	1.8700e-003	5.3000e-004	2.4000e-003	5.5000e-004	4.9000e-004	1.0300e-003	0.0000	11.4364	11.4364	1.7000e-004	0.0000	11.4400
Worker	0.0234	5.9900e-003	0.0811	7.0000e-005	3.9000e-003	1.1000e-004	4.0100e-003	1.0500e-003	1.0000e-004	1.1500e-003	0.0000	4.9957	4.9957	4.1000e-004	0.0000	5.0042
Total	**0.0489**	**0.0975**	**0.4804**	**2.1000e-004**	**5.7700e-003**	**6.4000e-004**	**6.4100e-003**	**1.6000e-003**	**5.9000e-004**	**2.1800e-003**	**0.0000**	**16.4321**	**16.4321**	**5.8000e-004**	**0.0000**	**16.4442**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1626	2.6971	2.0904	3.0800e-003		0.1050	0.1050		0.1050	0.1050	0.0000	272.2848	272.2848	0.0666	0.0000	273.6841
Total	**0.1626**	**2.6971**	**2.0904**	**3.0800e-003**		**0.1050**	**0.1050**		**0.1050**	**0.1050**	**0.0000**	**272.2848**	**272.2848**	**0.0666**	**0.0000**	**273.6841**

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	0.0254	0.0915	0.3993	1.4000e-004	1.8700e-003	5.3000e-004	2.4000e-003	5.5000e-004	4.9000e-004	1.0300e-003	0.0000	11.4364	11.4364	1.7000e-004	0.0000	11.4400
Worker	0.0234	5.9900e-003	0.0811	7.0000e-005	3.9000e-003	1.1000e-004	4.0100e-003	1.0500e-003	1.0000e-004	1.1500e-003	0.0000	4.9957	4.9957	4.1000e-004	0.0000	5.0042
Total	**0.0489**	**0.0975**	**0.4804**	**2.1000e-004**	**5.7700e-003**	**6.4000e-004**	**6.4100e-003**	**1.6000e-003**	**5.9000e-004**	**2.1800e-003**	**0.0000**	**16.4321**	**16.4321**	**5.8000e-004**	**0.0000**	**16.4442**

3.4 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9995					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4000e-003	0.0337	0.0355	6.0000e-005		2.2000e-003	2.2000e-003		2.1900e-003	2.1900e-003	0.0000	4.9127	4.9127	7.9000e-004	0.0000	4.9293
Total	**1.0039**	**0.0337**	**0.0355**	**6.0000e-005**		**2.2000e-003**	**2.2000e-003**		**2.1900e-003**	**2.1900e-003**	**0.0000**	**4.9127**	**4.9127**	**7.9000e-004**	**0.0000**	**4.9293**

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	4.1000e-004	1.0000e-004	1.4100e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0869	0.0869	1.0000e-005	0.0000	0.0870
Total	**4.1000e-004**	**1.0000e-004**	**1.4100e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0869**	**0.0869**	**1.0000e-005**	**0.0000**	**0.0870**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9995					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9300e-003	0.0384	0.0352	6.0000e-005		1.4600e-003	1.4600e-003		1.4500e-003	1.4500e-003	0.0000	4.9126	4.9126	7.9000e-004	0.0000	4.9293
Total	**1.0014**	**0.0384**	**0.0352**	**6.0000e-005**		**1.4600e-003**	**1.4600e-003**		**1.4500e-003**	**1.4500e-003**	**0.0000**	**4.9126**	**4.9126**	**7.9000e-004**	**0.0000**	**4.9293**

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	4.1000e-004	1.0000e-004	1.4100e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0869	0.0869	1.0000e-005	0.0000	0.0870
Total	**4.1000e-004**	**1.0000e-004**	**1.4100e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0869**	**0.0869**	**1.0000e-005**	**0.0000**	**0.0870**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0300e-003	0.0429	0.0362	6.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.0922	5.0922	1.5900e-003	0.0000	5.1255
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.0300e-003**	**0.0429**	**0.0362**	**6.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.1600e-003**	**2.1600e-003**	**0.0000**	**5.0922**	**5.0922**	**1.5900e-003**	**0.0000**	**5.1255**

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	8.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0181	0.0181	0.0000	0.0000	0.0181
Total	**8.0000e-005**	**2.0000e-005**	**2.9000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0181**	**0.0181**	**0.0000**	**0.0000**	**0.0181**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2800e-003	0.0493	0.0423	6.0000e-005		1.6400e-003	1.6400e-003		1.6400e-003	1.6400e-003	0.0000	5.0922	5.0922	1.5900e-003	0.0000	5.1255
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2800e-003**	**0.0493**	**0.0423**	**6.0000e-005**		**1.6400e-003**	**1.6400e-003**		**1.6400e-003**	**1.6400e-003**	**0.0000**	**5.0922**	**5.0922**	**1.5900e-003**	**0.0000**	**5.1255**

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	8.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0181	0.0181	0.0000	0.0000	0.0181
Total	**8.0000e-005**	**2.0000e-005**	**2.9000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0181**	**0.0181**	**0.0000**	**0.0000**	**0.0181**

3.5 Paving - 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	0.0107	0.1120	0.1077	1.7000e-004		6.0700e-003	6.0700e-003		5.5900e-003	5.5900e-003	0.0000	15.0296	15.0296	4.7600e-003	0.0000	15.1295
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.1120**	**0.1077**	**1.7000e-004**		**6.0700e-003**	**6.0700e-003**		**5.5900e-003**	**5.5900e-003**	**0.0000**	**15.0296**	**15.0296**	**4.7600e-003**	**0.0000**	**15.1295**

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	2.4000e-004	6.0000e-005	8.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0524	0.0524	0.0000	0.0000	0.0524
Total	**2.4000e-004**	**6.0000e-005**	**8.0000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0524**	**0.0524**	**0.0000**	**0.0000**	**0.0524**

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	6.8400e-003	0.1478	0.1270	1.7000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	15.0296	15.0296	4.7600e-003	0.0000	15.1294
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.8400e-003**	**0.1478**	**0.1270**	**1.7000e-004**		**4.9100e-003**	**4.9100e-003**		**4.9100e-003**	**4.9100e-003**	**0.0000**	**15.0296**	**15.0296**	**4.7600e-003**	**0.0000**	**15.1294**

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	2.4000e-004	6.0000e-005	8.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0524	0.0524	0.0000	0.0000	0.0524
Total	**2.4000e-004**	**6.0000e-005**	**8.0000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0524**	**0.0524**	**0.0000**	**0.0000**	**0.0524**

SV14, TAC, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	191.00	1000sqft	3.29	191,000.00	0
Parking Lot	127.00	Space	0.00	33,648.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioxide Emission intensity

Land Use - From the Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment -

Off-road Equipment - Construction Schedule and Equipment List

Off-road Equipment - Construction Schedule and Equipment List

Trips and VMT - For TAC, trip distance = 0.5 miles

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	20.00
tblLandUse	LandUseSquareFeet	50,800.00	33,648.00
tblLandUse	LotAcreage	4.38	3.29
tblLandUse	LotAcreage	1.14	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50

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	0.3167	2.5153	2.4608	3.3300e-003	5.9600e-003	0.1487	0.1547	1.6500e-003	0.1398	0.1414	0.0000	288.7360	288.7360	0.0673	0.0000	290.1497
2020	1.0238	0.2065	0.2226	3.4000e-004	2.3000e-004	0.0113	0.0115	6.0000e-005	0.0105	0.0106	0.0000	29.5090	29.5090	8.2200e-003	0.0000	29.6816
Total	**1.3405**	**2.7218**	**2.6833**	**3.6700e-003**	**6.1900e-003**	**0.1600**	**0.1662**	**1.7100e-003**	**0.1503**	**0.1520**	**0.0000**	**318.2450**	**318.2450**	**0.0755**	**0.0000**	**319.8312**

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	0.2029	2.8144	2.5815	3.3300e-003	5.9600e-003	0.1048	0.1108	1.6500e-003	0.1048	0.1064	0.0000	288.7357	288.7357	0.0673	0.0000	290.1493
2020	1.0163	0.2831	0.2509	3.4000e-004	2.3000e-004	9.7400e-003	9.9700e-003	6.0000e-005	9.7200e-003	9.7900e-003	0.0000	29.5090	29.5090	8.2200e-003	0.0000	29.6815
Total	**1.2192**	**3.0975**	**2.8324**	**3.6700e-003**	**6.1900e-003**	**0.1146**	**0.1208**	**1.7100e-003**	**0.1145**	**0.1162**	**0.0000**	**318.2447**	**318.2447**	**0.0755**	**0.0000**	**319.8308**

	ROG	NOx	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	**9.05**	**-13.80**	**-5.56**	**0.00**	**0.00**	**28.39**	**27.33**	**0.00**	**23.82**	**23.55**	**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	Grading	Grading	1/22/2019	2/18/2019	5	20	
2	Building Construction	Building Construction	2/19/2019	1/6/2020	5	230	
3	Architectural Coating	Architectural Coating	1/7/2020	2/3/2020	5	20	
4	Paving	Paving	2/4/2020	3/2/2020	5	20	

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: 288,014; Non-Residential Outdoor: 96,005 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Aerial Lifts	1	8.00	62	0.31
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	2	5.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

Building Construction	9	94.00	37.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	19.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0000e-003	0.0509	0.0565	8.0000e-005		2.8900e-003	2.8900e-003		2.6600e-003	2.6600e-003	0.0000	7.5442	7.5442	2.3900e-003	0.0000	7.5943
Total	**5.0000e-003**	**0.0509**	**0.0565**	**8.0000e-005**	**0.0000**	**2.8900e-003**	**2.8900e-003**	**0.0000**	**2.6600e-003**	**2.6600e-003**	**0.0000**	**7.5442**	**7.5442**	**2.3900e-003**	**0.0000**	**7.5943**

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	1.1000e-004	3.0000e-005	3.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0233	0.0233	0.0000	0.0000	0.0233
Total	**1.1000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0233**	**0.0233**	**0.0000**	**0.0000**	**0.0233**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5200e-003	0.0753	0.0636	8.0000e-005		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	7.5442	7.5442	2.3900e-003	0.0000	7.5943
Total	**3.5200e-003**	**0.0753**	**0.0636**	**8.0000e-005**	**0.0000**	**2.6100e-003**	**2.6100e-003**	**0.0000**	**2.6100e-003**	**2.6100e-003**	**0.0000**	**7.5442**	**7.5442**	**2.3900e-003**	**0.0000**	**7.5943**

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	1.1000e-004	3.0000e-005	3.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0233	0.0233	0.0000	0.0000	0.0233
Total	**1.1000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0233**	**0.0233**	**0.0000**	**0.0000**	**0.0233**

3.3 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	0.2657	2.3691	1.9346	3.0300e-003		0.1452	0.1452		0.1365	0.1365	0.0000	264.5587	264.5587	0.0644	0.0000	265.9105
Total	**0.2657**	**2.3691**	**1.9346**	**3.0300e-003**		**0.1452**	**0.1452**		**0.1365**	**0.1365**	**0.0000**	**264.5587**	**264.5587**	**0.0644**	**0.0000**	**265.9105**

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	0.0233	0.0898	0.3937	1.4000e-004	1.9400e-003	5.0000e-004	2.4500e-003	5.7000e-004	4.6000e-004	1.0300e-003	0.0000	11.6673	11.6673	1.8000e-004	0.0000	11.6710
Worker	0.0225	5.5300e-003	0.0756	7.0000e-005	4.0000e-003	1.1000e-004	4.1200e-003	1.0800e-003	1.1000e-004	1.1800e-003	0.0000	4.9426	4.9426	3.8000e-004	0.0000	4.9505
Total	**0.0459**	**0.0953**	**0.4693**	**2.1000e-004**	**5.9400e-003**	**6.1000e-004**	**6.5700e-003**	**1.6500e-003**	**5.7000e-004**	**2.2100e-003**	**0.0000**	**16.6098**	**16.6098**	**5.6000e-004**	**0.0000**	**16.6215**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1534	2.6437	2.0482	3.0300e-003		0.1016	0.1016		0.1016	0.1016	0.0000	264.5584	264.5584	0.0644	0.0000	265.9102
Total	**0.1534**	**2.6437**	**2.0482**	**3.0300e-003**		**0.1016**	**0.1016**		**0.1016**	**0.1016**	**0.0000**	**264.5584**	**264.5584**	**0.0644**	**0.0000**	**265.9102**

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	0.0233	0.0898	0.3937	1.4000e-004	1.9400e-003	5.0000e-004	2.4500e-003	5.7000e-004	4.6000e-004	1.0300e-003	0.0000	11.6673	11.6673	1.8000e-004	0.0000	11.6710
Worker	0.0225	5.5300e-003	0.0756	7.0000e-005	4.0000e-003	1.1000e-004	4.1200e-003	1.0800e-003	1.1000e-004	1.1800e-003	0.0000	4.9426	4.9426	3.8000e-004	0.0000	4.9505
Total	**0.0459**	**0.0953**	**0.4693**	**2.1000e-004**	**5.9400e-003**	**6.1000e-004**	**6.5700e-003**	**1.6500e-003**	**5.7000e-004**	**2.2100e-003**	**0.0000**	**16.6098**	**16.6098**	**5.6000e-004**	**0.0000**	**16.6215**

3.3 Building Construction - 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	4.2200e-003	0.0382	0.0336	5.0000e-005		2.2300e-003	2.2300e-003		2.0900e-003	2.0900e-003	0.0000	4.6130	4.6130	1.1200e-003	0.0000	4.6366
Total	**4.2200e-003**	**0.0382**	**0.0336**	**5.0000e-005**		**2.2300e-003**	**2.2300e-003**		**2.0900e-003**	**2.0900e-003**	**0.0000**	**4.6130**	**4.6130**	**1.1200e-003**	**0.0000**	**4.6366**

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	3.9000e-004	1.4500e-003	6.7900e-003	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2019	0.2019	0.0000	0.0000	0.2020
Worker	3.8000e-004	9.0000e-005	1.2200e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0840	0.0840	1.0000e-005	0.0000	0.0841
Total	**7.7000e-004**	**1.5400e-003**	**8.0100e-003**	**0.0000**	**1.0000e-004**	**1.0000e-005**	**1.1000e-004**	**3.0000e-005**	**1.0000e-005**	**4.0000e-005**	**0.0000**	**0.2859**	**0.2859**	**1.0000e-005**	**0.0000**	**0.2861**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6300e-003	0.0467	0.0362	5.0000e-005		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	4.6130	4.6130	1.1200e-003	0.0000	4.6366
Total	**2.6300e-003**	**0.0467**	**0.0362**	**5.0000e-005**		**1.7700e-003**	**1.7700e-003**		**1.7700e-003**	**1.7700e-003**	**0.0000**	**4.6130**	**4.6130**	**1.1200e-003**	**0.0000**	**4.6366**

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	3.9000e-004	1.4500e-003	6.7900e-003	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2019	0.2019	0.0000	0.0000	0.2020
Worker	3.8000e-004	9.0000e-005	1.2200e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0840	0.0840	1.0000e-005	0.0000	0.0841
Total	**7.7000e-004**	**1.5400e-003**	**8.0100e-003**	**0.0000**	**1.0000e-004**	**1.0000e-005**	**1.1000e-004**	**3.0000e-005**	**1.0000e-005**	**4.0000e-005**	**0.0000**	**0.2859**	**0.2859**	**1.0000e-005**	**0.0000**	**0.2861**

3.4 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	1.0012					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6200e-003	0.0288	0.0352	6.0000e-005		1.6200e-003	1.6200e-003		1.6100e-003	1.6100e-003	0.0000	4.8562	4.8562	7.3000e-004	0.0000	4.8716
Total	**1.0048**	**0.0288**	**0.0352**	**6.0000e-005**		**1.6200e-003**	**1.6200e-003**		**1.6100e-003**	**1.6100e-003**	**0.0000**	**4.8562**	**4.8562**	**7.3000e-004**	**0.0000**	**4.8716**

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	3.8000e-004	9.0000e-005	1.2400e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0849	0.0849	1.0000e-005	0.0000	0.0850
Total	**3.8000e-004**	**9.0000e-005**	**1.2400e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0849**	**0.0849**	**1.0000e-005**	**0.0000**	**0.0850**

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	1.0012					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9100e-003	0.0377	0.0352	6.0000e-005		1.4100e-003	1.4100e-003		1.4000e-003	1.4000e-003	0.0000	4.8562	4.8562	7.3000e-004	0.0000	4.8716
Total	**1.0031**	**0.0377**	**0.0352**	**6.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**4.8562**	**4.8562**	**7.3000e-004**	**0.0000**	**4.8716**

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	3.8000e-004	9.0000e-005	1.2400e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0849	0.0849	1.0000e-005	0.0000	0.0850
Total	**3.8000e-004**	**9.0000e-005**	**1.2400e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0849**	**0.0849**	**1.0000e-005**	**0.0000**	**0.0850**

3.5 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	0.0133	0.1378	0.1435	2.2000e-004		7.3900e-003	7.3900e-003		6.8000e-003	6.8000e-003	0.0000	19.6021	19.6021	6.3400e-003	0.0000	19.7352
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0133**	**0.1378**	**0.1435**	**2.2000e-004**		**7.3900e-003**	**7.3900e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**19.6021**	**19.6021**	**6.3400e-003**	**0.0000**	**19.7352**

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-004	7.0000e-005	9.8000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0670	0.0670	0.0000	0.0000	0.0671
Total	**3.0000e-004**	**7.0000e-005**	**9.8000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0670**	**0.0670**	**0.0000**	**0.0000**	**0.0671**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1200e-003	0.1970	0.1693	2.2000e-004		6.5400e-003	6.5400e-003		6.5400e-003	6.5400e-003	0.0000	19.6020	19.6020	6.3400e-003	0.0000	19.7352
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1200e-003**	**0.1970**	**0.1693**	**2.2000e-004**		**6.5400e-003**	**6.5400e-003**		**6.5400e-003**	**6.5400e-003**	**0.0000**	**19.6020**	**19.6020**	**6.3400e-003**	**0.0000**	**19.7352**

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-004	7.0000e-005	9.8000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0670	0.0670	0.0000	0.0000	0.0671
Total	**3.0000e-004**	**7.0000e-005**	**9.8000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0670**	**0.0670**	**0.0000**	**0.0000**	**0.0671**

Equinix Xilinx, Site Work, TAC

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	573.00	1000sqft	18.00	573,000.00	0
Parking Lot	299.00	Space	0.00	79,220.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised Carbon Dioxide Emission Intensity Standard

Land Use - From Site Plans

Construction Phase - Site Specific Construction Schedule

Off-road Equipment -

Off-road Equipment -

Trips and VMT - For TAC, trip distance=0.5mile

Construction Off-road Equipment Mitigation - Best Management Practices

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblLandUse	LandUseSquareFeet	119,600.00	79,220.00
tblLandUse	LotAcreage	13.15	18.00
tblLandUse	LotAcreage	2.69	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50

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					
2016	0.1236	1.3957	0.9464	1.1200e-003	0.2206	0.0685	0.2890	0.1036	0.0630	0.1666	0.0000	105.9353	105.9353	0.0319	0.0000	106.6055
Total	**0.1236**	**1.3957**	**0.9464**	**1.1200e-003**	**0.2206**	**0.0685**	**0.2890**	**0.1036**	**0.0630**	**0.1666**	**0.0000**	**105.9353**	**105.9353**	**0.0319**	**0.0000**	**106.6055**

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					
2016	0.0356	0.9366	0.6899	1.1200e-003	0.0993	0.0255	0.1248	0.0234	0.0255	0.0488	0.0000	105.9352	105.9352	0.0319	0.0000	106.6053
Total	**0.0356**	**0.9366**	**0.6899**	**1.1200e-003**	**0.0993**	**0.0255**	**0.1248**	**0.0234**	**0.0255**	**0.0488**	**0.0000**	**105.9352**	**105.9352**	**0.0319**	**0.0000**	**106.6053**

	ROG	NOx	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	**71.22**	**32.89**	**27.10**	**0.00**	**54.96**	**62.78**	**56.82**	**77.47**	**59.54**	**70.69**	**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	11/1/2016	11/14/2016	5	10	
2	Grading	Grading	11/15/2016	12/26/2016	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	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
Site Preparation	7	18.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2016

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4386	18.4386	5.5600e-003	0.0000	18.5554
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0903**	**0.0147**	**0.1050**	**0.0497**	**0.0135**	**0.0632**	**0.0000**	**18.4386**	**18.4386**	**5.5600e-003**	**0.0000**	**18.5554**

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	2.4000e-004	7.0000e-005	8.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0469	0.0469	0.0000	0.0000	0.0470
Total	**2.4000e-004**	**7.0000e-005**	**8.7000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0469**	**0.0469**	**0.0000**	**0.0000**	**0.0470**

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					0.0407	0.0000	0.0407	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1500e-003	0.1721	0.1170	2.0000e-004		4.8100e-003	4.8100e-003		4.8100e-003	4.8100e-003	0.0000	18.4385	18.4385	5.5600e-003	0.0000	18.5553
Total	**6.1500e-003**	**0.1721**	**0.1170**	**2.0000e-004**	**0.0407**	**4.8100e-003**	**0.0455**	**0.0112**	**4.8100e-003**	**0.0160**	**0.0000**	**18.4385**	**18.4385**	**5.5600e-003**	**0.0000**	**18.5553**

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	2.4000e-004	7.0000e-005	8.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0469	0.0469	0.0000	0.0000	0.0470
Total	**2.4000e-004**	**7.0000e-005**	**8.7000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0469**	**0.0469**	**0.0000**	**0.0000**	**0.0470**

3.3 Grading - 2016

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0972	1.1222	0.7371	9.3000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	87.2936	87.2936	0.0263	0.0000	87.8465
Total	**0.0972**	**1.1222**	**0.7371**	**9.3000e-004**	**0.1301**	**0.0538**	**0.1839**	**0.0540**	**0.0495**	**0.1034**	**0.0000**	**87.2936**	**87.2936**	**0.0263**	**0.0000**	**87.8465**

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	8.0000e-004	2.2000e-004	2.9000e-003	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1563	0.1563	1.0000e-005	0.0000	0.1566
Total	**8.0000e-004**	**2.2000e-004**	**2.9000e-003**	**0.0000**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1563**	**0.1563**	**1.0000e-005**	**0.0000**	**0.1566**

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					0.0586	0.0000	0.0586	0.0121	0.0000	0.0121	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0284	0.7642	0.5692	9.3000e-004		0.0207	0.0207		0.0207	0.0207	0.0000	87.2935	87.2935	0.0263	0.0000	87.8464
Total	**0.0284**	**0.7642**	**0.5692**	**9.3000e-004**	**0.0586**	**0.0207**	**0.0792**	**0.0121**	**0.0207**	**0.0328**	**0.0000**	**87.2935**	**87.2935**	**0.0263**	**0.0000**	**87.8464**

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	8.0000e-004	2.2000e-004	2.9000e-003	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1563	0.1563	1.0000e-005	0.0000	0.1566
Total	**8.0000e-004**	**2.2000e-004**	**2.9000e-003**	**0.0000**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1563**	**0.1563**	**1.0000e-005**	**0.0000**	**0.1566**

Attachment 5: Data Center Emergency Generators Health Impacts and Modeling Information

Xilnix Data Center - SV-12, SV-13, and SV-14 Emergency Generators
Source Parameters for Emergency Diesel-Fueled Generators

Source	Load	Stack height (ft)	Stack Diam (in)	Temp (F)	Volume Flow (acfm)	Velocity (ft/min)	Velocity (ft/sec)
Generators 1 - 21	100%	19.33	20	830	23,365	10710	178.5
Generators 1 - 21	25%	19.33	20	630	10,028	4597	76.6

Source	Load	Stack height (m)	Stack Diam (m)	Temp (K)	Velocity (m/sec)
Generators 1 - 21	100%	5.89	0.508	716.5	54.41
Generators 1 - 21	25%	5.89	0.508	605.4	23.35

Xilinx Data Center, San Jose, CA - DPM Cancer Risks From 21 Emergency Generators
50 Hours Operation per Year per Unit at Full Load
Maximum DPM Cancer Risk at Off-Site Receptors
1.5 Meter Receptor Heights

Cancer Risk Calculation Method

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

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

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

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

Values

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

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

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

MEI Cancer Risk From Emergency Generator Operation
1.5 meter receptor height

Exposure Duration (years)	Age	Age Sensitivity Factor	DPM Annual Conc (ug/m3)	DPM Cancer Risk (per million)
0.25	-0.25 - 0*	10	0.0022	0.03
2	1 - 2	10	0.0022	0.71
14	3 - 16	3	0.0022	0.78
14	17 - 30	1	0.0022	0.09
Total Increased Cancer Risk				**1.6**

* Third trimester of pregnancy

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.

For guidance on conducting a risk & hazard screening, including for roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Table A: Requestor Contact Information	
Contact Name:	Tanushree Ganguly
Affiliation:	Illingworth & Rodkin, Inc.
Phone:	707-794-0400
Email:	tganguly@illingworthrodkin.com
Date of Request	6/8/2016
Project Name:	Equinix
Address:	Great Oaks Boulevard
City:	San Jose
County:	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.):	Industrial: Data Center Building
Project size (# of units, or building square feet):	573 ksf
Comments:	

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

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

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.

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

Using the Google Earth ruler function, measure the distance in feet between the project's fenceline and the stationary source's fenceline for all the sources that are within 1,000 feet of the project's fenceline. 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 that the source is within 1,000 feet of the project. Please report any mapping errors to the District (District contact information in Step 9).

If the stationary source is within 1,000 feet of the project's fenceline and the stationary source's information table does not list the cancer risk, hazard index, and PM2.5 concentration, and instead says to "Contact District Staff", list the stationary source information in Table B Section 1 below.

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

Email this completed form to District staff (Step 9). 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 Alison Kirk at 415-749-5169, or akirk@baaqmd.gov .

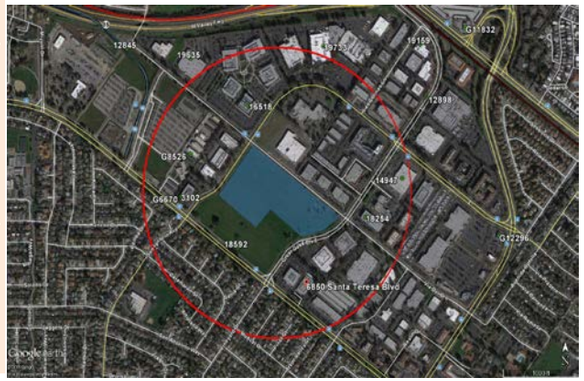

Table B: Stationary Sources within 1,000 feet of Receptor that say "Contact District Staff"

Table B Section 1: Requestor fills out these columns based on Google Earth data				Table B Section 2: BAAQMD returns form with additional information in these columns as needed									
Distance from Receptor (feet)	**Plant # or Gas Dispensary #**	**Facility Name**	**Street Address**	**2011 Screening Level Cancer Risk (1)**	**2011 Screening Level Hazard Index (1)**	**2011 Screening Level PM2.5 (1)**	**2014 Screening Level Cancer Risk (1)**	**2014 Screening Level Hazard Index (1)**	**2014 Screening Level PM2.5 (1)**	**Distance to Threshold Cancer Risk**	**Multiplier**	**Distance Adjusted PM2.5 Level**	
	16518	Northrop Grumman Systems Corp	6379 San Ignacio Avenue	5.61	0.0086	0.0058	58.4	0.03	0.08	ap 10991, JHL, 10/26/04			generator this source has HrSA values, consider using HRSA
							5.61						
	18592	Berg and Berg	6850 Santa Teresa Blvd	93.53	0.033	0.022	2.4	0.001	0.003				generator, new plant no. 22169
						adjusted for distance:	0.38	<0.001	<0.001				
	18254	ISCS, Inc.	100 Great oaks Blvd.	0.0051	2.00E-05	5.30E-06	1.38	0.002	0.002				generator
	14947	VA Venture	80 great Oaks Blvd.	27.28	0.01	0.006	n/a			generator, current emissions data attached			
							1.4	0	0	used beta RH Screening tool			
	19733	Stion Corporation	6321 San Ignacio Avenue	Data Unavailable	Data Unavailable	Data Unavailable	0	0.0009	0	facility wide wipe cleaning			

adjusted cancer

5.61

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

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

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	South
Distance from Roadway	35 feet
Annual Average Daily Traffic (ADT)	16,950

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

9.30 (per million)

Santa Theresa Blvd

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

6.39

(per million)

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

Notes and References:

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