

MIDPOINT AT 237 PROJECT– CONSTRUCTION AND OPERATIONAL HEALTH RISK ASSESSMENT SAN JOSE, CALIFORNIA

February 6, 2014

Prepared for:

Akoni Daniels
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San Jose, California 95126

Prepared by:

**James A. Reyff
and William Popenuck**

ILLINGWORTH & RODKIN, INC.
/// Acoustics • Air Quality ///
1 Willowbrook Court, Suite 120
Petaluma, CA 94954
(707) 794-0400

Introduction

The Midpoint at 237 Project would facilitate the development of four Research & Development (R&D) buildings and two manufacturing buildings at the approved former Cisco Alviso site, now referred to as Midpoint. The approved Cisco Alviso project consisted of 2.325 million square feet of R&D space. The proposed Midpoint project is comparable to the approved Cisco project in that it is proposing to build commercial development. This project would include manufacturing uses, rather than the approved Research and Development uses. Since the Cisco Alviso project was approved, there has been one R&D project built with 427,000 square feet and another R&D project approved with 614,000 square feet, for a total of 1.04 million square feet. The Midpoint project proposes to develop the remainder of the Cisco site with 415,000 square feet of R&D space and three manufacturing buildings that would total 547,000 square feet. This would bring the total on the Cisco site to just over 2 million square feet, which is within the total approved project size.

Because the project would not construct more land uses or generate more traffic than evaluated under the Cisco Alviso project, air pollutant emissions associated with the project affecting regional air quality do not need to be addressed. However, the project may have local effects due to construction and operation. This analysis addresses community risk impacts due to project construction and generation of truck traffic associated with the manufacturing uses. Community risk impacts are addressed by predicting excess cancer risk and annual fine particulate matter concentrations (PM_{2.5}) associated with construction and operation of the project.

Discussion of TACs

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include, but are not limited to, criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a highway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

Diesel Particulate Matter

Diesel exhaust, in the form of diesel particulate matter (DPM), is the predominant TAC in urban air with the potential to cause cancer. It is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the California Air Resource 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. California has adopted a comprehensive diesel risk reduction program. The U.S. Environmental Protection Agency (EPA) and the CARB have adopted low-sulfur diesel fuel standards in 2006 that reduces diesel particulate matter substantially. The CARB recently adopted new regulations requiring the retrofit and/or replacement of construction equipment, on-highway diesel trucks, and diesel

buses in order to lower fine particulate matter (PM_{2.5}) emissions and reduce statewide cancer risk from diesel exhaust.

Fine Particulate Matter (PM_{2.5})

Particulate matter in excess of state and federal standards represents another challenge for the Bay Area. Elevated concentrations of 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.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are existing single-family residences immediately south of the site. Additionally, George Mayne Elementary School is located immediately south. Jubilee Christian Center is located to the north. It is unclear if this location includes sensitive receptors. To be conservative, this analysis assumed daycare facilities were part of this land use.

Community Risk Thresholds of Significance

The Bay Area Air Quality Management District (BAAQMD) identified significance thresholds for exposure to TACs and PM_{2.5} as part of its May 2011 *CEQA Air Quality Guidelines*¹. This report uses the thresholds and methodologies from BAAQMD's May 2011 *CEQA Air Quality Guidelines* to determine whether there would be any project health risk impacts. This report addresses single-source (construction and operational) impacts to nearby off-site receptors. This impact would be considered significant and mitigation would be required if:

1. An excess cancer risk level of more than 10 in 1 million, or a non-cancer (chronic or acute) hazard index greater than 1.0.
2. An incremental increase of more than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5}.

Construction Community Risk Impacts

Construction activity is anticipated to include grading, building construction, paving and application of architectural coatings. During grading, and some building construction activities, substantial amounts of dust could be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and would be dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. To address fugitive dust emissions that lead to elevated PM₁₀ and PM_{2.5} levels near construction sites, the BAAQMD *CEQA Air Quality Guidelines* identify best control measures. If included in construction projects, these impacts will be considered less than significant. These features include the following:

¹ BAAQMD, 2011. *BAAQMD CEQA Air Quality Guidelines*. May.

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 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
6. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
7. 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). Clear signage shall be provided for construction workers at all access points.
8. 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.
9. 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.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a TAC. BAAQMD has developed screening tables for evaluating potential impacts from toxic air contaminants emitted at construction projects.² The screening tables are described by BAAQMD as “environmentally conservative interim guidance” and are meant to be used to identify potentially significant impacts that should be modeled using refined techniques. These screening tables indicate that construction activities similar to this project could have significant impacts at distances beyond 100 meters or 330 feet, with the primary impact being excess cancer risk. However, these screening tables are based on older construction equipment that has higher emission rates and the load factors assumed were considerably higher than those recently recommended by the CARB. Since project construction activities would include grading, and building construction that would last longer than 6 months and would be located within 330 feet of sensitive receptors, a more refined-level study of community risk assessment was conducted to evaluate whether impact would be significant, and if so, identify the project features or mitigation measures that would be necessary to avoid significant impacts in terms of community risk impacts to nearby sensitive receptors (e.g., adjacent residences).

On-Site Construction TAC Emissions

This refined health risk assessment focused on modeling on-site construction activity using construction fleet information included in the project design. Construction period emissions were modeled using the California Emissions Estimator Model, Version 2013.2.2 (CalEEMod) along with projected construction activity. 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 the provided site-specific construction activity schedule. Construction of the project is expected to occur over about a 16-month period assumed to begin in Fall 2014 and continue through Spring 2016.

Construction emissions were modeled as two separate model runs. One run addressed the construction of Manufacturing Buildings 1 and 2 that are 167,000 and 163,000 square feet in size. The second model run included Building 3 at 217,000 square feet, along with the 415,000 square feet of Research &

² BAAQMD. 2010. *Screening Tables for Air Toxics Evaluation During Construction*. May.

Development Buildings. Construction schedules along with the quantity and operating schedule of equipment for each of the two phases were provided. In addition, truck trips were estimated based on the quantities of material (i.e., fill or cement) to be imported. These data were input to each of the CalEEMod model input files.

The CalEEMod model provided total annual PM_{2.5} exhaust emissions (assumed to be diesel particulate matter) for the off-road construction equipment and for exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles), with total emissions of 0.137 tons (274 pounds) in 2014, 0.314 tons (628 pounds) in 2015, and 0.01 tons (20 pounds) in 2016. The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during building construction. A trip length of 1 mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive PM_{2.5} dust emissions were calculated by CalEEMod as 0.142 tons (284 pounds) in 2014, 0.099 tons (198 pounds), and 0.0002 tons (0.4 pounds) in 2016. The CalEEMod model output with emission calculations are provided in *Attachment 1*. The construction schedule and equipment list is also provided in Attachment 1.

Dispersion Modeling

The U.S. EPA ISCST3 dispersion model was used to predict concentrations of DPM at existing sensitive receptors in the vicinity of the project site. The ISCST3 modeling utilized area sources to represent the on-site construction emissions, two for DPM exhaust emissions and two for fugitive PM_{2.5} dust emissions. The ISCST3 modeling utilized area sources to represent different areas on-site construction activities. These areas are shown on Figure 1. For each construction area, area sources were used to model exhaust emissions and fugitive dust (PM_{2.5}) emissions. Emissions were distributed evenly across the areas sources. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (20 feet) was used for the area sources. 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 feet) was used for the area sources. Emissions from truck travel at the project site were included in the area sources. Emissions were modeled as occurring daily between 7 am - 4 pm. The model used a 5-year data set (1996-2000) of hourly meteorological data from Alviso available from the BAAQMD. Annual DPM concentrations from construction activities were predicted for 2014 through 2016, with the annual average concentrations based on the 5-year average concentrations from modeling 5 years of meteorological data. DPM concentrations were calculated at nearby sensitive receptors at a height of 1.5 meters (5 feet).

Cancer Risk and Hazards

The maximum-modeled annual DPM concentration occurred at the residence north of the project site along Grand Boulevard. The location of this receptor is identified on Figure 1. Increased cancer risks were calculated using the modeled annual concentrations and BAAQMD recommended risk assessment methods for a child exposure (3rd trimester through 2 years of age), student exposure (9 years) and for an adult exposure. Since the modeling was conducted under the conservative assumption that emissions occurred 365 days per year, the default BAAQMD exposure period of 350 days per year was used for children and adults.

Table 1 reports the community risk impacts associated with construction activities at the various sensitive receptor types near the project. Results of this assessment indicate that, with project construction, the incremental child cancer risk at the maximally exposed individual (MEI) would be 6.0 in one million and the adult incremental cancer risk would be 0.3 in one million. These predicted excess cancer risks are

below the BAAQMD significance threshold of 10 in one million and are not considered a significant impact.

The modeled maximum annual $PM_{2.5}$ concentration was 0.07 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), occurring at George Mayne Elementary School near the southern boundary of the construction area at a height of 1.5 meters. This $PM_{2.5}$ concentration is below the BAAQMD threshold of $0.3 \mu\text{g}/\text{m}^3$ used to judge the significance of impacts for $PM_{2.5}$.

Figure 1 Project Site, Sensitive Receptors, and Location of Maximum Cancer Risk from Construction

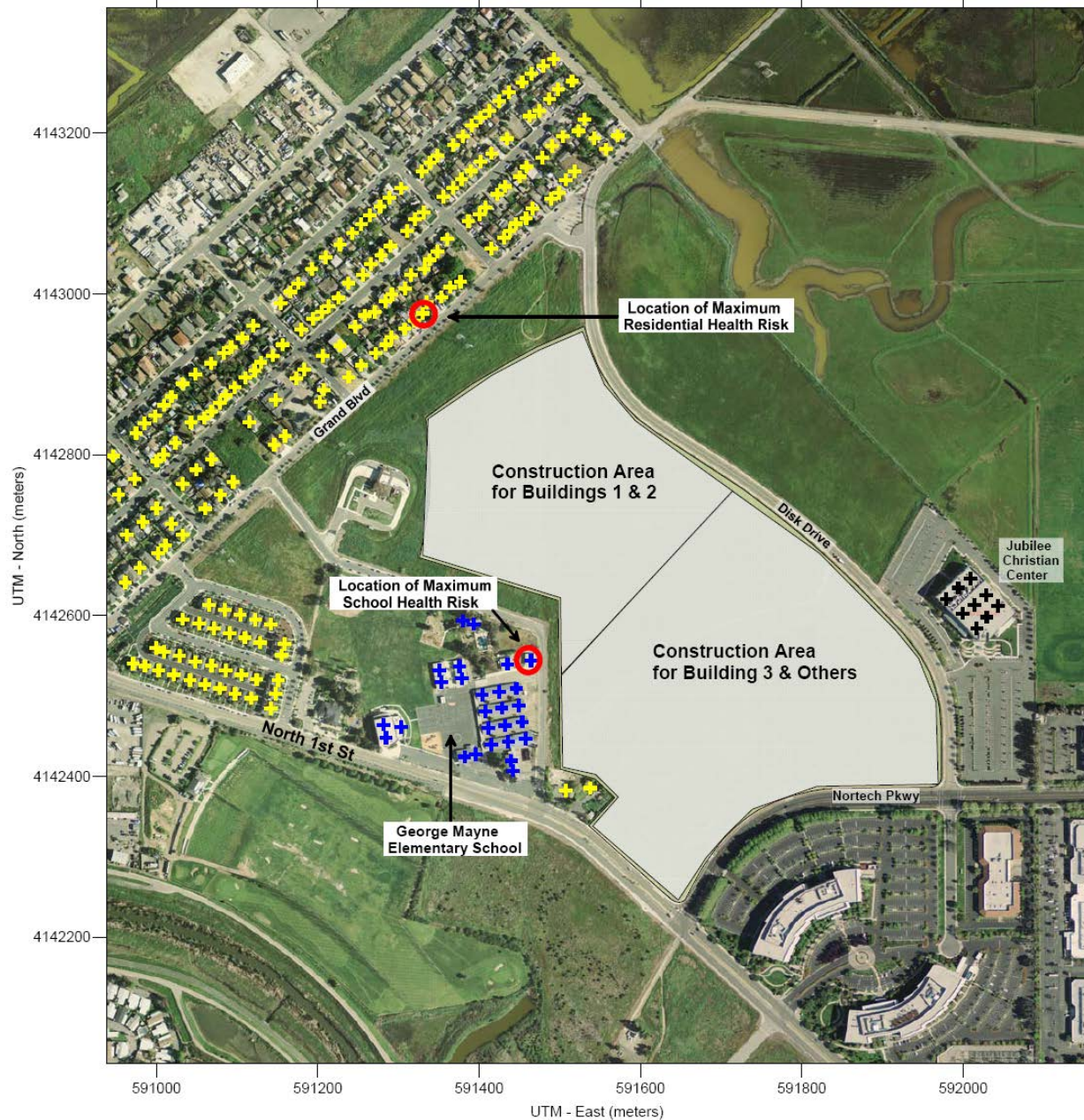


Table 1 Construction Period Community Risk Impacts

Receptor	Community Risk Impact		
	Excess Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
Residential – child	6.0	0.06	<0.01
Residential - adult	0.3	0.06	<0.01
School - child	1.9	0.07	0.01

Potential non-cancer health effects due to chronic exposure to DPM were also evaluated. The chronic inhalation reference exposure level (REL) for DPM is 5 µg/m³. The maximum predicted annual DPM concentration was 0.05 µg/m³, which is much lower than the REL. The Hazard Index (HI), which is the ratio of the annual DPM concentration to the REL, is 0.01. This HI is much lower than the BAAQMD significance criterion of a HI greater than 1.0.

The project would have a *less-than-significant* impact with respect to community risk caused by construction activities. *Attachment 1* includes the emission calculations used for the area source modeling, dispersion modeling inputs, and the cancer risk calculations.

Operational Community Risk Impacts

The manufacturing component of the project would be a source of truck traffic on a regular basis. Trucks would be a source diesel particulate matter (DPM) emissions from future loading activities and nearby travel. According to the project traffic analysis, approximately 220 one-way truck trips would be generated each day³. These truck trips would use Disk Drive, Nortech Parkway and North First Street. Community risk impacts were predicted from this activity.

Emissions from truck activity were computed using the California Air Resources Board's EMFAC2011 model. Emissions were calculated using emission rates for 2016 for diesel-fueled heavy duty truck (HHDT) trucks in Santa Clara County. The project was assumed to generate 220 one-way trips that would occur over a 24-hour period 365 days per year. Emissions were calculated assuming a travel speed of 10 miles per hour (mph) on site and 30 mph on Disk Drive, Nortech Parkway and North 1st Street. Emissions for years beyond 2016 were assumed to be the same as those for 2016.

The U.S. EPA ISCST3 dispersion model was also used to predict concentrations of DPM from truck activity. Modeling was conducted using the 5 year hourly meteorological data set from Alviso obtained from BAAQMD. Truck emissions were modeled as line sources (a series of volume sources along a line) representing travel routes from Midpoint to the north then east along Disk Drive, south along Nortech Parkway and east along North First Street. DPM concentrations were predicted at receptors near the project site at a height of 1.5 meters (5 feet). Based on modeled DPM concentrations, cancer risks were calculated for a 70-year exposure assuming constant emissions at 2016 levels over the entire 70 year period. A cancer risk adjustment factor of 1.7 was used for this analysis to account for age sensitivity. Figure 2 shows the modeled truck routes, receptors, and location of maximum impacts. Modeling information is included in *Attachment 1*.

³ Memo from Gary Black and Robert Del Rio of Hexagon Transportation Consultants, Inc., Subject: Midpoint Supplemental Traffic Study, dated November 27, 2013.

The maximum increased DPM cancer risk from the project site truck emissions is 0.6 per million. The annual $\text{PM}_{2.5}$ concentration due to DPM emissions would be $0.00113 \mu\text{g}/\text{m}^3$. The corresponding Hazard Index would be well below 1.0.

Substantial sources of TACs are not located within 1,000 feet of the project site. Excess cancer risk associated project construction and operation would be less than 6.6 chances per million. The maximum annual $\text{PM}_{2.5}$ concentration would be less than $0.07 \mu\text{g}/\text{m}^3$. This impact would be considered *less than significant*.

Figure 2 Project Site, Sensitive Receptors, and Location of Maximum Cancer Risk From Operation

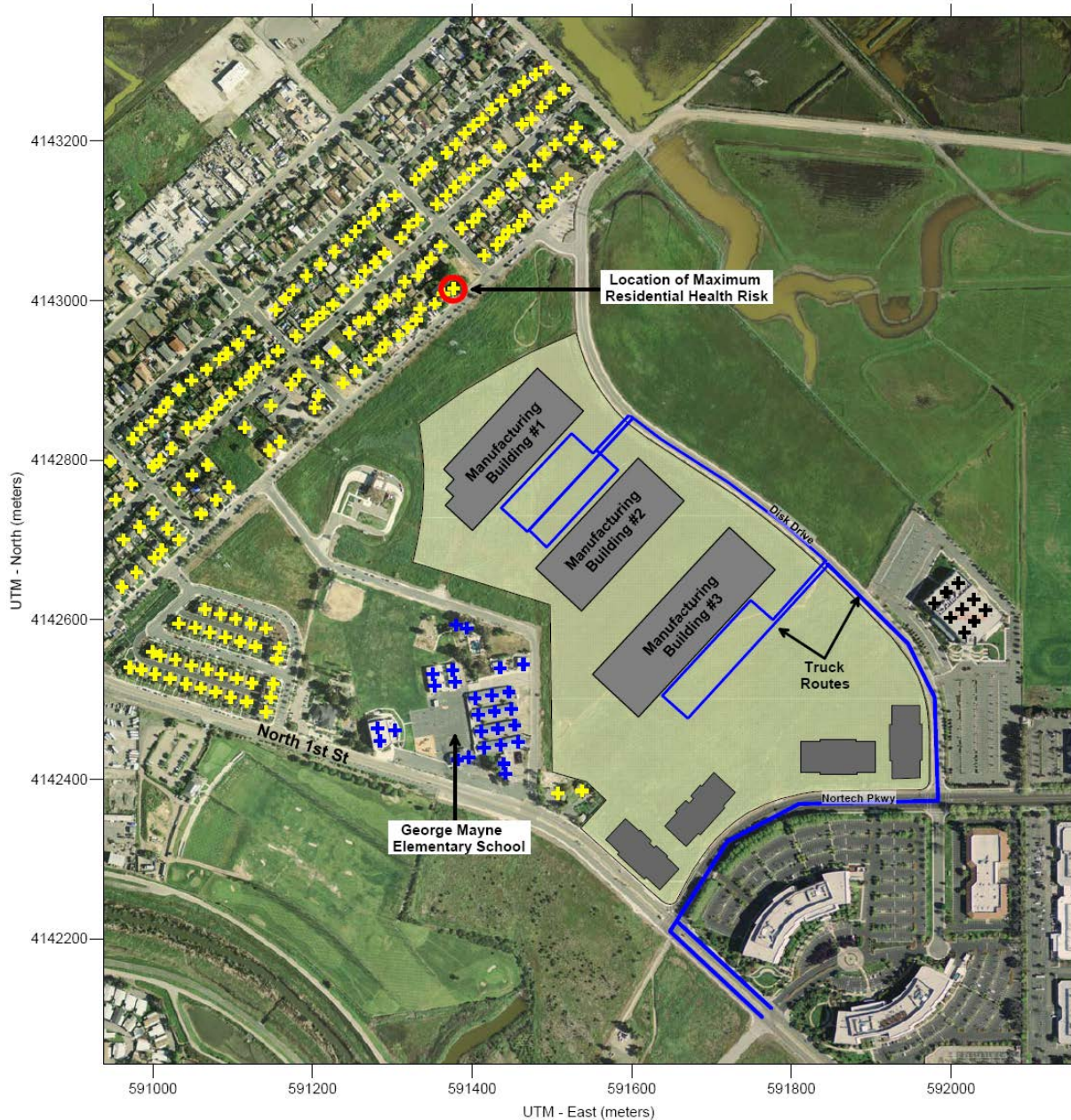


Table 2 Operational Period Community Risk Impacts

Receptor	Community Risk Impact		
	Excess Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
Residential – lifetime	1.4	<0.01	<0.01
School Student – 9 years	0.6	<0.01	< 0.01

ATTACHMENT 1 – MODELING ASSUMPTIONS AND OUTPUT

Midpoint - Alviso, CA

DPM Construction Emissions and Modeling Emission Rates

							DPM	
Construction		DPM	Area	DPM Emissions			Modeled	Emission
Year	Activity	(ton/year)	Source	(lb/yr)	(lb/hr)	(g/s)	Area	Rate
Phase 1								
2014	Construction	0.1371	CON1_DPM	274.2	0.08347	1.05E-02	85,376	1.23E-07
2015	Construction	0.1725	CON1_DPM	345.0	0.10502	1.32E-02	85,376	1.55E-07
		0.3096		619.2	0.18849	2.38E-02		
Phase 2								
2015	Construction	0.1413	CON2_DPM	282.6	0.08603	1.08E-02	136,281	7.95E-08
2016	Construction	0.0103	CON2_DPM	20.6	0.00627	7.90E-04	136,281	5.80E-09
		0.1516		303.2	0.09230	1.16E-02		

Notes:

Emissions assumed to be evenly distributed over each construction areas

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

Midpoint - Alviso, CA

PM2.5 Fugitive Dust Construction Emissions for Modeling

							Modeled	DPM
Construction		Area	PM2.5 Emissions				Area	Emission
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	(m ²)	Rate
Phase 1								
2014	Construction	CON1_FUG	0.1417	283.4	0.08627	1.09E-02	85,376	1.27E-07
2015	Construction	CON1_FUG	0.0123	24.6	0.00749	9.44E-04	85,376	1.11E-08
			0.1540	308.0	0.09376	1.18E-02		
Phase 2								
2015	Construction	CON2_FUG	0.0871	174.2	0.05303	6.68E-03	136,281	4.90E-08
2016	Construction	CON2_FUG	0.0002	0.3	0.00010	1.23E-05	136,281	9.01E-11
			0.0873	174.5	0.05313	6.69E-03		

Notes:

Emissions assumed to be evenly distributed over each construction areas

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

Midpoint, Alviso, CA - Construction Health Impacts Summary

Maximum Impacts at Off-Site Residential Receptor

Construction Year	Residential					
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM2.5/DPM	Fugitive PM2.5				
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	Child	Adult	(-)	($\mu\text{g}/\text{m}^3$)
2014	0.0276	0.0295	2.4	0.1	0.006	0.057
2015	0.0407	0.0063	3.6	0.2	0.008	0.047
2016	0.0004	0.0000	0.0	0.0	0.000	0.000
Total	-	-	6.0	0.3	-	-
Maximum Annual	0.0407	0.0295			0.008	0.057

Maximum School Child Impacts

Construction Year	George Mayne Elementary School					
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM2.5/DPM	Fugitive PM2.5				
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	Child	Adult	(-)	($\mu\text{g}/\text{m}^3$)
2014	0.0211	0.0232	0.6	-	0.004	0.044
2015	0.0482	0.0169	1.3	-	0.010	0.065
2016						
Total	-	-	1.9	-	-	-
Maximum Annual	0.0482	0.0232			0.010	0.065

Midpoint - Alviso, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meters

Cancer Risk (per million) = CPF x Inhalation Dose x 1.0E6

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

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10⁻⁶ / AT

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

AT = Averaging time period over which exposure is averaged.

10⁻⁶ = Conversion factor

Values

Parameter	Child	Adult
CPF =	1.10E+00	1.10E+00
DBR =	581	302
A =	1	1
EF =	350	350
AT =	25,550	25,550

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Year	Exposure Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
				Exposure Adjust Factor		Modeled		Exposure Adjust Factor			
		DPM Conc (ug/m3)				DPM Conc (ug/m3)					
		Year	Annual			Year	Annual				
1	1	2014	0.0276	10	2.41	2014	0.0276	1	0.13	0.0295	0.057
2	1	2015	0.0407	10	3.56	2015	0.0407	1	0.19	0.0063	0.047
3	1		0.0004	4.75	0.02	2016	0.0004	1	0.00	0.0000	0.000
4	1		0.0000	3	0.00		0.0000	1	0.00		
5	1		0.0000	3	0.00		0.0000	1	0.00		
6	1		0.0000	3	0.00		0.0000	1	0.00		
7	1		0.0000	3	0.00		0.0000	1	0.00		
8	1		0.0000	3	0.00		0.0000	1	0.00		
9	1		0.0000	3	0.00		0.0000	1	0.00		
10	1		0.0000	3	0.00		0.0000	1	0.00		
11	1		0.0000	3	0.00		0.0000	1	0.00		
12	1		0.0000	3	0.00		0.0000	1	0.00		
13	1		0.0000	3	0.00		0.0000	1	0.00		
14	1		0.0000	3	0.00		0.0000	1	0.00		
15	1		0.0000	3	0.00		0.0000	1	0.00		
16	1		0.0000	3	0.00		0.0000	1	0.00		
17	1		0.0000	1.5	0.00		0.0000	1	0.00		
18	1		0.0000	1	0.00		0.0000	1	0.00		
.	.	.	.	.	.	.	.	.	.		
.	.	.	.	.	.	.	.	.	.		
.	.	.	.	.	.	.	.	.	.		
65	1		0.0000	1	0.00		0.0000	1	0.00		
66	1		0.0000	1	0.00		0.0000	1	0.00		
67	1		0.0000	1	0.00		0.0000	1	0.00		
68	1		0.0000	1	0.00		0.0000	1	0.00		
69	1		0.0000	1	0.00		0.0000	1	0.00		
70	1		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk					6.00				0.31		

Midpoint - Alviso, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
School Child Receptor Locations

Cancer Risk (per million) = CPF x Inhalation Dose x 1.0E6

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

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10⁻⁶ / AT

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

AT = Averaging time period over which exposure is averaged.

10⁻⁶ = Conversion factor

Values

Parameter	Child	Adult
CPF =	1.10E+00	1.10E+00
DBR =	581	302
A =	1	1
EF =	350	350
AT =	25,550	25,550

Construction Cancer Risk by Year - Student Exposure

Year	Exposure Exposure Duration (years)	Student - Exposure Information			Student Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
				Exposure Adjust Factor*			
		DPM Conc (ug/m3)					
		Year	Conc				
1	1	2014	0.0211	3	0.55	0.0232	0.044
2	1	2015	0.0482	3	1.27	0.0169	0.065
3	1	2016	0.0016	3	0.04	0.0000	0.002
4	1		0.000	3	0.00		
5	1		0.000	3	0.00		
6	1		0.000	3	0.00		
7	1		0.000	1	0.00		
8	1		0.000	1	0.00		
9	1		0.000	1	0.00		
10	1		0.000	1	0.00		
11	1		0.000	1	0.00		
12	1		0.000	1	0.00		
13	1		0.000	1	0.00		
14	1		0.000	1	0.00		
15	1		0.000	1	0.00		
16	1		0.000	1	0.00		
17	1		0.000	1	0.00		
18	1		0.000	1	0.00		
.	.	.	.	.	.		
.	.	.	.	.	.		
.	.	.	.	.	.		
65	1		0.000	1	0.00		
66	1		0.000	1	0.00		
67	1		0.000	1	0.00		
68	1		0.000	1	0.00		
69	1		0.000	1	0.00		
70	1		0.000	1	0.00		
Total Increased Cancer Risk					1.9		

* Assumes that students at school are 16 years of age or younger for entire construction period

Midpoint, Alviso, CA - Operation Off-site Truck Emissions 2016

Truck Route/Location	Line Source Name	Vehicle Type ¹	Annual Trucks ²	Travel Speed (mph)	PM2.5 Emission Factor ³ (g/mi)	Operation ⁴ Schedule (hrs/day)	Travel Distance		Annual DPM Emissions (lb/year)	Average Hourly Emissions (lb/hr)
							(feet)	(miles)		
Eastbound N 1st	EB-1st	HHDT	40,150	30	0.0660	24	520	0.10	0.57	6.56E-05
Westbound N 1st	WB-1st	HHDT	40,150	30	0.0660	24	529	0.10	0.58	6.68E-05
Nortech & Disk Dr #1	NT-DD-1	HHDT	40,150	30	0.0660	24	4964	0.94	5.49	6.27E-04
Nortech & Disk Dr #2	NT-DD-2	HHDT	26,767	30	0.0660	24	2004	0.38	1.48	1.69E-04
		Total							1.16	1.32E-04

¹ HHDT = heavy heavy duty truck

² Annual trips - Assumes operation for 365 days per year

³ Emission factors from EMFAC2011 for Santa Clara Co. and assumes all trucks are diesel.

⁴ Operation hours assumed to be 24 hours per day

Midpoint, Alviso, CA - On-Site Operation Truck DPM Emissions 2016

Truck Route	Line Source Name	Vehicle Type ¹	Annual Trucks	Travel Speed (mph)	Idle Emission Factor ³ (g/hr)	PM2.5 Emission Factor ³ (g/mi)	Operation ⁴ Schedule (hrs/day)	Roundtrip Travel Distance		Annual DPM Emissions (lb/year)		Average Hourly Emissions (lb/hr)
								(feet)	(miles)	Travel	Idle ⁵	
Onsite Truck Route 1	OS1-TRK	HHDT	13,383	10	0.1487	0.1252	24	1530	0.29	1.07	0.73	2.06E-04
Onsite Truck Route 2	OS2-TRK	HHDT	13,383	10	0.1487	0.1252	24	1469	0.28	1.03	0.73	2.01E-04
Onsite Truck Route 3	OS3-TRK	HHDT	13,383	10	0.1487	0.1252	24	1962	0.37	1.37	0.73	2.40E-04
		Total	40,150					4,960	0.9	3.47	2.19	6.47E-04

¹ HHDT = heavy heavy duty truck

² Annual trips - Based on 365 days of operation

³ Emission factors from EMFAC2011 for Santa Clara Co. for operation in 2016 and assumes all trucks are diesel.

⁴ Operation hours assumed to be 24 hours per day, 365 days per year

⁵ Assumes 5 minutes idle per trip

Midpoint - Alviso, CA - Operational Impacts
Maximum DPM Cancer Risk Calculations From Heavy-Duty Trucks

DPM Emission Rates	
Source Type(s)	Annual DPM (lb/yr)
On & Off-site Delivery Trucks	12.9

Modeling Information	
Model:	ISCST3
Source	On- & Off-site Delivery Trucks
Source Type	9 Line-Volume Sources
Meteorological Data	Alviso Hourly Met Data 1996 - 2000 (from BAAQMD)
Line-Volume Source Parameters	
Line Source Lengths	variable (refer to emissions table)
Volume Plume Height	6.8 m
Volume Plume Width	12 ft & 24 ft (lane/road widths)
Volume Release Height	3.4 m
Hourly Emission Rate (lb/hr)	variable (refer to emissions table)
Receptors	
Number of Receptors	224
Receptor Spacing	10 m (33 ft)
Receptor Height	15 m (4.9 ft)

Cancer Risk Calculation Method								
Inhalation Dose = $C_{\text{air}} \times \text{DBR} \times A \times \text{HD} \times \text{EF} \times \text{ED} \times 10^{-6} / \text{AT}$ Where: C_{air} = concentration in air ($\mu\text{g}/\text{m}^3$) DBR = daily breathing rate (L/kg body weight-day) A = Inhalation absorption factor EF = Exposure frequency (days/year) HD = daily exposure (hours/day/24) ED = Exposure duration (years) AT = Averaging time period over which exposure is averaged. 10^{-6} = Conversion factor								
Inhalation Dose Factors								
Exposure Type	Value ¹							
	DBR (L/kg BW-day)	A (-)	Exposure (hr/day)	Exposure (days/week)	Exposure (week/year)	EF (days/yr)	ED (Years)	AT (days)
Residential (70-Year)	302	1	24	7	50	350	70	25,550
Student (9-Year)	581	1	10	5	36	180	9	25,550
¹ Default values recommended by OEHHA & Bay Area Air Quality Management District Cancer Risk (per million) = Inhalation Dose $\times$ CRAF $\times$ CPF $\times 10^6$ = URF $\times C_{\text{air}}$ Where: CPF = Cancer potency factor ($\text{mg}/\text{kg}\cdot\text{day})^{-1}$ CRAF = Cancer Risk Adjustment Factor URF = Unit risk factor (cancer risk per $\mu\text{g}/\text{m}^3$)								
Unit Risk Factor for DPM								
Exposure Type	CPF ($\text{mg}/\text{kg}\cdot\text{day})^{-1}$	CRAF (-)	URF DPM					
Residential (70-Yr Exposure)	1.10E+00	1.7	541.5					
Student (9-Year)	1.10E+00	3	50.7					

Model Results and Cancer Risks		
Exposure Type	Maximum	
	DPM/PM2.5 Annual Ave ($\mu\text{g}/\text{m}^3$)	DPM Cancer Risk (per million)
Residential (70-Yr Exposure)	0.00113	0.61
Jubilee Christian Center (9-year)*	0.00187	0.09
Elementary School Student (9-Year)	0.00092	0.05

* exposure assumed to be similar to school students.

Project Name: Midpoint 237 Building1,2, 3 & Site								Complete ALL Portions in Yellow
	See Example Equipment List TAB for type, horsepower and load factor							
Qty	Description	HP	Load Factor	Hours/day	Average Hours/day over phase	Total Work Days	Annual Hours	Comments
	Subgrade, Base and Paving	Start Date:	9/18/2014					
		End Date:	12/1/2014	53				Soil Hauling Volume
2	14 H Cat Blade	240	0.3	8	6.0	40	320	Export volume = <u>0</u> cubic yards?
2	623 G Cat Scraper	365	0.59	8	6.0	40	320	Import volume Aggregate = 31,500 tons
2	84" Vibratory Roller	100	0.4	8	6.0	40	320	Import volume asphalt = 9,500 tons
2	Rubber Tired Loader (Skiploader)	100	0.5	8	6.0	40	320	
2	Other Equipment (Water Truck)	280	0.4	8	6.0	40	320	
2	Street Sweeper	275	0.4	4	3.0	40	160	
	Other Equipment?							
	Utilities	Start Date:	11/15/2014					
		End Date:	1/30/2014	55				
2	Excavator	162	0.38	8	4.4	30	240	
2	Tractor/Loader/Backhoe	97	0.37	8	4.4	30	240	
4	Dumper/Tender	16	0.38	8	4.4	30	240	
4	Plate Compactor	8	0.43	8	4.4	30	240	
	Other Equipment?							
	Building Shell	Start Date:	10/15/2014					
		End Date:	3/30/2015	119				
2	Tractors/Loaders/Backhoes	97	0.37	8	1.3	20	160	
2	Dumper/Tender	16	0.38	8	1.3	20	160	
2	Concrete Trucks (Other Construction Equipment)	171	0.42	8	1.2	18	144	Cement Trucks? <u>1722</u> Total Round-Trips, Ave 10min/Truck Onsite
2	Pumps	84	0.74	8	0.7	10	80	
2	Cranes	226	0.29	8	0.7	10	80	Electric? <u>No</u> Otherwise assumed diesel
6	Forklifts	89	0.2	8	2.7	40	320	Liquid Propane (LPG)? <u>yes</u> Otherwise Assumed diesel
6	Generator Sets	84	0.74	8	2.7	40	320	
6	Welders	46	0.45	8	1.7	25	200	
	Other Equipment?							
	Building Int. & Ext. Finishes	Start Date:	3/15/2015					
		End Date:	5/19/2015	47				
6	Air Compressors	78	0.48	8	5.1	30	240	
6	Aerial Lift	62	0.31	8	5.1	30	240	
6	Generator Sets	84	0.74	8	5.1	30	240	
4	Skid Steer Loaders	64	0.37	8	5.1	30	240	
2	Sweeper/Scrubber	64	0.46	8	1.7	10	80	
	Other Equipment?							
	Site Concrete, Landscape & Finishes	Start Date:	1/15/2015					
		Start Date:	5/19/2015	89				
2	Concrete Trucks (Other Construction Equipment)	171	0.42	8	0.6	7	56	Concrete Trucks? <u>~151</u> Total Round Trips, Ave 20min/Truck Onsite
4	Tractor/Loader/Backhoe	97	0.37	8	3.6	40	320	
6	Air Compressors - Striping	78	0.47	8	0.9	10	80	
2	Street Sweeper	245	0.4	8	0.9	10	80	
	Other Equipment?							
	Paving	Start Date:	2/15/2015					
		Start Date:	3/1/2015	10				
2	Pavers	200	0.4	8	8.0	10	80	
4	Roller - Vibratory	130	0.65	8	8.0	10	80	
2	Rubber Tired Loader (Skiploader)	100	0.5	8	8.0	10	80	
2	Street Sweeper	245	0.4	8	8.0	10	80	
	Other Equipment?							

Midpoint B# 1,2 & Site
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	330.00	1000sqft	20.00	330,000.00	0
Parking Lot	2,387.00	Space	0.00	954,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	370	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on PG&E rate

Land Use - Based on project size and estimate of acreage. All acreage assumed for land uses

Construction Phase - Based on Project phases and Schedule

Off-road Equipment - Project list

Off-road Equipment - Based on list

Off-road Equipment - Project list

Off-road Equipment - Based on list

Off-road Equipment - Based on construction list

Off-road Equipment - Project list

Trips and VMT - Includes asphalt import for subgrade base & paving. Added cement trucks at vendor haul length. Added in water trucks and tenders

Grading - Based on project list: material = 31,500 and asphalt = 9,500 tons

Vehicle Trips - Using Hexagon rates that are similar to CalEEMod default

Construction Off-road Equipment Mitigation - Tier 2 and BMPs

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	47.00
tblConstructionPhase	NumDays	300.00	119.00
tblConstructionPhase	NumDays	30.00	53.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	10.00	89.00
tblConstructionPhase	PhaseEndDate	5/5/2015	5/19/2015
tblConstructionPhase	PhaseEndDate	5/15/2015	3/30/2015
tblConstructionPhase	PhaseEndDate	6/2/2015	3/1/2015
tblConstructionPhase	PhaseEndDate	6/4/2015	5/19/2015
tblConstructionPhase	PhaseEndDate	6/15/2015	1/30/2015
tblConstructionPhase	PhaseStartDate	3/2/2015	3/15/2015
tblConstructionPhase	PhaseStartDate	12/2/2014	10/15/2014
tblConstructionPhase	PhaseStartDate	5/20/2015	2/15/2015
tblConstructionPhase	PhaseStartDate	1/31/2015	1/15/2015
tblConstructionPhase	PhaseStartDate	3/31/2015	11/15/2014
tblGrading	AcresOfGrading	79.50	75.00

tblGrading	MaterialImported	0.00	41,000.00
tblLandUse	LotAcreage	7.58	20.00
tblLandUse	LotAcreage	21.48	0.00
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	UsageHours	6.00	5.10
tblOffRoadEquipment	UsageHours	7.00	0.70
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	1.30
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	3.60
tblOffRoadEquipment	UsageHours	8.00	1.70
tblProjectCharacteristics	CO2IntensityFactor	641.35	370
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	4,054.00	4,058.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,444.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	302.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00

tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00

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					
2014	0.4170	2.8360	3.2394	2.6700e-003	0.3014	0.1462	0.4475	0.1417	0.1371	0.2788	0.0000	243.9809	243.9809	0.0513	0.0000	245.0579
2015	2.3209	2.7081	3.1052	3.5300e-003	0.0455	0.1786	0.2241	0.0123	0.1725	0.1848	0.0000	308.5957	308.5957	0.0486	0.0000	309.6171
Total	2.7379	5.5441	6.3446	6.2000e-003	0.3469	0.3248	0.6717	0.1540	0.3096	0.4636	0.0000	552.5766	552.5766	0.0999	0.0000	554.6750

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Subgrade, Base paving	Grading	9/18/2014	12/1/2014	5	53	
2	Building Shell	Building Construction	10/15/2014	3/30/2015	5	119	
3	Utilities	Trenching	11/15/2014	1/30/2015	5	55	
4	Site Concrete, Landscape & Finishes	Site Preparation	1/15/2015	5/19/2015	5	89	
5	Paving	Paving	2/15/2015	3/1/2015	5	10	
6	Building Interior, Exterior Finishes	Architectural Coating	3/15/2015	5/19/2015	5	47	

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: 537,966; Non-Residential Outdoor: 179,322 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Subgrade, Base paving	Rollers	2	6.00	80	0.38
Subgrade, Base paving	Excavators	0	8.00	162	0.38
Subgrade, Base paving	Graders	0	8.00	174	0.41
Subgrade, Base paving	Sweepers/Scrubbers	2	3.00	64	0.46
Subgrade, Base paving	Rubber Tired Dozers	2	6.00	255	0.40
Subgrade, Base paving	Scrapers	2	6.00	361	0.48
Building Shell	Pumps	2	0.70	84	0.74
Subgrade, Base paving	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Shell	Cranes	2	0.70	226	0.29
Utilities	Excavators	2	4.40	162	0.38
Building Shell	Forklifts	6	2.70	89	0.20

Building Shell	Generator Sets	6	2.70	84	0.74
Utilities	Tractors/Loaders/Backhoes	2	4.40	97	0.37
Utilities	Plate Compactors	4	4.40	8	0.43
Site Concrete, Landscape & Finishes	Air Compressors	6	0.90	78	0.48
Site Concrete, Landscape & Finishes	Sweepers/Scrubbers	2	0.90	64	0.46
Building Shell	Tractors/Loaders/Backhoes	2	1.30	97	0.37
Building Shell	Welders	6	1.70	46	0.45
Paving	Rubber Tired Loaders	2	8.00	199	0.36
Paving	Sweepers/Scrubbers	2	8.00	64	0.46
Building Interior, Exterior Finishes	Aerial Lifts	6	5.10	62	0.31
Building Interior, Exterior Finishes	Generator Sets	6	5.10	84	0.74
Building Interior, Exterior Finishes	Skid Steer Loaders	4	5.10	64	0.37
Site Concrete, Landscape & Finishes	Rubber Tired Dozers	0	8.00	255	0.40
Building Interior, Exterior Finishes	Sweepers/Scrubbers	2	1.70	64	0.46
Site Concrete, Landscape & Finishes	Tractors/Loaders/Backhoes	4	3.60	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	4	8.00	80	0.38
Building Interior, Exterior Finishes	Air Compressors	6	5.10	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Subgrade, Base paving	10	25.00	0.00	4,058.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Shell	24	540.00	211.00	3,444.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Utilities	8	20.00	0.00	8.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Concrete, Landscape & Finishes	12	30.00	0.00	302.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	10	25.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Interior, Exterior Finishes	24	108.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Subgrade, Base paving - 2014

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					0.2810	0.0000	0.2810	0.1362	0.0000	0.1362	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1468	1.6816	1.1339	1.2200e-003		0.0849	0.0849		0.0781	0.0781	0.0000	117.8797	117.8797	0.0348	0.0000	118.6113
Total	0.1468	1.6816	1.1339	1.2200e-003	0.2810	0.0849	0.3659	0.1362	0.0781	0.2142	0.0000	117.8797	117.8797	0.0348	0.0000	118.6113

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	0.0296	0.0892	0.3925	1.2000e-004	1.7500e-003	9.6000e-004	2.7200e-003	4.9000e-004	8.8000e-004	1.3700e-003	0.0000	10.3199	10.3199	1.7000e-004	0.0000	10.3234
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	2.1000e-003	7.6000e-004	9.4100e-003	1.0000e-005	4.9000e-004	1.0000e-005	5.0000e-004	1.3000e-004	1.0000e-005	1.4000e-004	0.0000	0.5927	0.5927	5.0000e-005	0.0000	0.5939
Total	0.0317	0.0900	0.4019	1.3000e-004	2.2400e-003	9.7000e-004	3.2200e-003	6.2000e-004	8.9000e-004	1.5100e-003	0.0000	10.9126	10.9126	2.2000e-004	0.0000	10.9173

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					0.0632	0.0000	0.0632	0.0306	0.0000	0.0306	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1468	1.6816	1.1339	1.2200e-003		0.0849	0.0849		0.0781	0.0781	0.0000	117.8796	117.8796	0.0348	0.0000	118.6111
Total	0.1468	1.6816	1.1339	1.2200e-003	0.0632	0.0849	0.1481	0.0306	0.0781	0.1087	0.0000	117.8796	117.8796	0.0348	0.0000	118.6111

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	0.0296	0.0892	0.3925	1.2000e-004	1.7500e-003	9.6000e-004	2.7200e-003	4.9000e-004	8.8000e-004	1.3700e-003	0.0000	10.3199	10.3199	1.7000e-004	0.0000	10.3234
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	2.1000e-003	7.6000e-004	9.4100e-003	1.0000e-005	4.9000e-004	1.0000e-005	5.0000e-004	1.3000e-004	1.0000e-005	1.4000e-004	0.0000	0.5927	0.5927	5.0000e-005	0.0000	0.5939
Total	0.0317	0.0900	0.4019	1.3000e-004	2.2400e-003	9.7000e-004	3.2200e-003	6.2000e-004	8.9000e-004	1.5100e-003	0.0000	10.9126	10.9126	2.2000e-004	0.0000	10.9173

3.3 Building Shell - 2014

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	0.0949	0.6158	0.4239	6.4000e-004		0.0470	0.0470		0.0459	0.0459	0.0000	55.2628	55.2628	0.0101	0.0000	55.4743
Total	0.0949	0.6158	0.4239	6.4000e-004		0.0470	0.0470		0.0459	0.0459	0.0000	55.2628	55.2628	0.0101	0.0000	55.4743

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	0.0356	0.1568	5.0000e-005	1.2800e-003	3.8000e-004	1.6600e-003	3.4000e-004	3.5000e-004	6.9000e-004	0.0000	4.1216	4.1216	7.0000e-005	0.0000	4.1230
Vendor	0.0668	0.2301	0.7893	2.9000e-004	5.3500e-003	2.7900e-003	8.1400e-003	1.5500e-003	2.5500e-003	4.1000e-003	0.0000	26.1419	26.1419	3.8000e-004	0.0000	26.1498
Worker	0.0480	0.0174	0.2147	1.7000e-004	0.0112	2.2000e-004	0.0115	3.0100e-003	2.0000e-004	3.2100e-003	0.0000	13.5275	13.5275	1.2300e-003	0.0000	13.5533
Total	0.1267	0.2831	1.1608	5.1000e-004	0.0179	3.3900e-003	0.0213	4.9000e-003	3.1000e-003	8.0000e-003	0.0000	43.7910	43.7910	1.6800e-003	0.0000	43.8261

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	0.0949	0.6158	0.4239	6.4000e-004		0.0470	0.0470		0.0459	0.0459	0.0000	55.2628	55.2628	0.0101	0.0000	55.4742
Total	0.0949	0.6158	0.4239	6.4000e-004		0.0470	0.0470		0.0459	0.0459	0.0000	55.2628	55.2628	0.0101	0.0000	55.4742

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	0.0356	0.1568	5.0000e-005	1.2800e-003	3.8000e-004	1.6600e-003	3.4000e-004	3.5000e-004	6.9000e-004	0.0000	4.1216	4.1216	7.0000e-005	0.0000	4.1230
Vendor	0.0668	0.2301	0.7893	2.9000e-004	5.3500e-003	2.7900e-003	8.1400e-003	1.5500e-003	2.5500e-003	4.1000e-003	0.0000	26.1419	26.1419	3.8000e-004	0.0000	26.1498
Worker	0.0480	0.0174	0.2147	1.7000e-004	0.0112	2.2000e-004	0.0115	3.0100e-003	2.0000e-004	3.2100e-003	0.0000	13.5275	13.5275	1.2300e-003	0.0000	13.5533
Total	0.1267	0.2831	1.1608	5.1000e-004	0.0179	3.3900e-003	0.0213	4.9000e-003	3.1000e-003	8.0000e-003	0.0000	43.7910	43.7910	1.6800e-003	0.0000	43.8261

3.3 Building Shell - 2015

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	0.0979	0.6536	0.4708	7.2000e-004		0.0488	0.0488		0.0476	0.0476	0.0000	62.0120	62.0120	0.0106	0.0000	62.2351
Total	0.0979	0.6536	0.4708	7.2000e-004		0.0488	0.0488		0.0476	0.0476	0.0000	62.0120	62.0120	0.0106	0.0000	62.2351

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	0.0109	0.0360	0.1599	5.0000e-005	1.3000e-003	3.2000e-004	1.6200e-003	3.4000e-004	2.9000e-004	6.4000e-004	0.0000	4.5644	4.5644	7.0000e-005	0.0000	4.5659
Vendor	0.0632	0.2316	0.8072	3.3000e-004	6.0200e-003	2.2600e-003	8.2800e-003	1.7400e-003	2.0700e-003	3.8100e-003	0.0000	29.0384	29.0384	3.8000e-004	0.0000	29.0463
Worker	0.0497	0.0175	0.2164	1.9000e-004	0.0126	2.4000e-004	0.0129	3.3800e-003	2.2000e-004	3.6000e-003	0.0000	14.7254	14.7254	1.2300e-003	0.0000	14.7513
Total	0.1239	0.2851	1.1834	5.7000e-004	0.0200	2.8200e-003	0.0228	5.4600e-003	2.5800e-003	8.0500e-003	0.0000	48.3282	48.3282	1.6800e-003	0.0000	48.3635

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	0.0979	0.6536	0.4708	7.2000e-004		0.0488	0.0488		0.0476	0.0476	0.0000	62.0119	62.0119	0.0106	0.0000	62.2351
Total	0.0979	0.6536	0.4708	7.2000e-004		0.0488	0.0488		0.0476	0.0476	0.0000	62.0119	62.0119	0.0106	0.0000	62.2351

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	0.0109	0.0360	0.1599	5.0000e-005	1.3000e-003	3.2000e-004	1.6200e-003	3.4000e-004	2.9000e-004	6.4000e-004	0.0000	4.5644	4.5644	7.0000e-005	0.0000	4.5659
Vendor	0.0632	0.2316	0.8072	3.3000e-004	6.0200e-003	2.2600e-003	8.2800e-003	1.7400e-003	2.0700e-003	3.8100e-003	0.0000	29.0384	29.0384	3.8000e-004	0.0000	29.0463
Worker	0.0497	0.0175	0.2164	1.9000e-004	0.0126	2.4000e-004	0.0129	3.3800e-003	2.2000e-004	3.6000e-003	0.0000	14.7254	14.7254	1.2300e-003	0.0000	14.7513
Total	0.1239	0.2851	1.1834	5.7000e-004	0.0200	2.8200e-003	0.0228	5.4600e-003	2.5800e-003	8.0500e-003	0.0000	48.3282	48.3282	1.6800e-003	0.0000	48.3635

3.4 Utilities - 2014

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	0.0158	0.1650	0.1138	1.7000e-004		9.9000e-003	9.9000e-003		9.1400e-003	9.1400e-003	0.0000	15.8273	15.8273	4.4600e-003	0.0000	15.9210
Total	0.0158	0.1650	0.1138	1.7000e-004		9.9000e-003	9.9000e-003		9.1400e-003	9.1400e-003	0.0000	15.8273	15.8273	4.4600e-003	0.0000	15.9210

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.1000e-004	4.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0122	0.0122	0.0000	0.0000	0.0122
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	1.0500e-003	3.8000e-004	4.6900e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2952	0.2952	3.0000e-005	0.0000	0.2958
Total	1.0900e-003	4.9000e-004	5.1500e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.3075	0.3075	3.0000e-005	0.0000	0.3080

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	0.0158	0.1650	0.1138	1.7000e-004		9.9000e-003	9.9000e-003		9.1400e-003	9.1400e-003	0.0000	15.8273	15.8273	4.4600e-003	0.0000	15.9209
Total	0.0158	0.1650	0.1138	1.7000e-004		9.9000e-003	9.9000e-003		9.1400e-003	9.1400e-003	0.0000	15.8273	15.8273	4.4600e-003	0.0000	15.9209

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.1000e-004	4.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0122	0.0122	0.0000	0.0000	0.0122
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	1.0500e-003	3.8000e-004	4.6900e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2952	0.2952	3.0000e-005	0.0000	0.2958
Total	1.0900e-003	4.9000e-004	5.1500e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.3075	0.3075	3.0000e-005	0.0000	0.3080

3.4 Utilities - 2015

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	0.0104	0.1065	0.0761	1.1000e-004		6.3900e-003	6.3900e-003		5.9000e-003	5.9000e-003	0.0000	10.4501	10.4501	2.9700e-003	0.0000	10.5125
Total	0.0104	0.1065	0.0761	1.1000e-004		6.3900e-003	6.3900e-003		5.9000e-003	5.9000e-003	0.0000	10.4501	10.4501	2.9700e-003	0.0000	10.5125

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.0000e-005	2.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8.0100e-003	8.0100e-003	0.0000	0.0000	8.0100e-003
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	2.3000e-004	2.8000e-003	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1905	0.1905	2.0000e-005	0.0000	0.1908
Total	6.6000e-004	2.9000e-004	3.0800e-003	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1985	0.1985	2.0000e-005	0.0000	0.1988

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	0.0104	0.1065	0.0761	1.1000e-004		6.3900e-003	6.3900e-003		5.9000e-003	5.9000e-003	0.0000	10.4501	10.4501	2.9700e-003	0.0000	10.5125
Total	0.0104	0.1065	0.0761	1.1000e-004		6.3900e-003	6.3900e-003		5.9000e-003	5.9000e-003	0.0000	10.4501	10.4501	2.9700e-003	0.0000	10.5125

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.0000e-005	2.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8.0100e-003	8.0100e-003	0.0000	0.0000	8.0100e-003
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	2.3000e-004	2.8000e-003	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1905	0.1905	2.0000e-005	0.0000	0.1908
Total	6.6000e-004	2.9000e-004	3.0800e-003	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1985	0.1985	2.0000e-005	0.0000	0.1988

3.5 Site Concrete, Landscape & Finishes - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0495	0.4137	0.2918	3.9000e-004		0.0335	0.0335		0.0316	0.0316	0.0000	36.4452	36.4452	9.1600e-003	0.0000	36.6376
Total	0.0495	0.4137	0.2918	3.9000e-004	0.0000	0.0335	0.0335	0.0000	0.0316	0.0316	0.0000	36.4452	36.4452	9.1600e-003	0.0000	36.6376

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8100e-003	5.9700e-003	0.0265	1.0000e-005	1.3000e-004	5.0000e-005	1.8000e-004	4.0000e-005	5.0000e-005	8.0000e-005	0.0000	0.7560	0.7560	1.0000e-005	0.0000	0.7563
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	3.9000e-003	1.3700e-003	0.0170	1.0000e-005	9.9000e-004	2.0000e-005	1.0100e-003	2.7000e-004	2.0000e-005	2.8000e-004	0.0000	1.1557	1.1557	1.0000e-004	0.0000	1.1577
Total	5.7100e-003	7.3400e-003	0.0435	2.0000e-005	1.1200e-003	7.0000e-005	1.1900e-003	3.1000e-004	7.0000e-005	3.6000e-004	0.0000	1.9117	1.9117	1.1000e-004	0.0000	1.9140

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0495	0.4137	0.2918	3.9000e-004		0.0335	0.0335		0.0316	0.0316	0.0000	36.4452	36.4452	9.1600e-003	0.0000	36.6375
Total	0.0495	0.4137	0.2918	3.9000e-004	0.0000	0.0335	0.0335	0.0000	0.0316	0.0316	0.0000	36.4452	36.4452	9.1600e-003	0.0000	36.6375

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8100e-003	5.9700e-003	0.0265	1.0000e-005	1.3000e-004	5.0000e-005	1.8000e-004	4.0000e-005	5.0000e-005	8.0000e-005	0.0000	0.7560	0.7560	1.0000e-005	0.0000	0.7563
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	3.9000e-003	1.3700e-003	0.0170	1.0000e-005	9.9000e-004	2.0000e-005	1.0100e-003	2.7000e-004	2.0000e-005	2.8000e-004	0.0000	1.1557	1.1557	1.0000e-004	0.0000	1.1577
Total	5.7100e-003	7.3400e-003	0.0435	2.0000e-005	1.1200e-003	7.0000e-005	1.1900e-003	3.1000e-004	7.0000e-005	3.6000e-004	0.0000	1.9117	1.9117	1.1000e-004	0.0000	1.9140

3.6 Paving - 2015

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	0.0213	0.2221	0.1097	1.8000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	17.5459	17.5459	5.2400e-003	0.0000	17.6560
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0213	0.2221	0.1097	1.8000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	17.5459	17.5459	5.2400e-003	0.0000	17.6560

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	5.2000e-004	7.3000e-004	7.1100e-003	1.0000e-005	1.1400e-003	1.0000e-005	1.1500e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0387	1.0387	6.0000e-005	0.0000	1.0400
Total	5.2000e-004	7.3000e-004	7.1100e-003	1.0000e-005	1.1400e-003	1.0000e-005	1.1500e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0387	1.0387	6.0000e-005	0.0000	1.0400

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	0.0213	0.2221	0.1097	1.8000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	17.5459	17.5459	5.2400e-003	0.0000	17.6559
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0213	0.2221	0.1097	1.8000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	17.5459	17.5459	5.2400e-003	0.0000	17.6559

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	5.2000e-004	7.3000e-004	7.1100e-003	1.0000e-005	1.1400e-003	1.0000e-005	1.1500e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0387	1.0387	6.0000e-005	0.0000	1.0400
Total	5.2000e-004	7.3000e-004	7.1100e-003	1.0000e-005	1.1400e-003	1.0000e-005	1.1500e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0387	1.0387	6.0000e-005	0.0000	1.0400

3.7 Building Interior, Exterior Finishes - 2015

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	1.8701					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1304	1.0040	0.7756	1.2400e-003		0.0737	0.0737		0.0727	0.0727	0.0000	109.5754	109.5754	0.0176	0.0000	109.9446
Total	2.0005	1.0040	0.7756	1.2400e-003		0.0737	0.0737		0.0727	0.0727	0.0000	109.5754	109.5754	0.0176	0.0000	109.9446

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0105	0.0148	0.1443	2.7000e-004	0.0231	2.0000e-004	0.0233	6.1500e-003	1.8000e-004	6.3200e-003	0.0000	21.0900	21.0900	1.2000e-003	0.0000	21.1151
Total	0.0105	0.0148	0.1443	2.7000e-004	0.0231	2.0000e-004	0.0233	6.1500e-003	1.8000e-004	6.3200e-003	0.0000	21.0900	21.0900	1.2000e-003	0.0000	21.1151

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	1.8701					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1304	1.0040	0.7756	1.2400e-003		0.0737	0.0737		0.0727	0.0727	0.0000	109.5753	109.5753	0.0176	0.0000	109.9445
Total	2.0005	1.0040	0.7756	1.2400e-003		0.0737	0.0737		0.0727	0.0727	0.0000	109.5753	109.5753	0.0176	0.0000	109.9445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0105	0.0148	0.1443	2.7000e-004	0.0231	2.0000e-004	0.0233	6.1500e-003	1.8000e-004	6.3200e-003	0.0000	21.0900	21.0900	1.2000e-003	0.0000	21.1151
Total	0.0105	0.0148	0.1443	2.7000e-004	0.0231	2.0000e-004	0.0233	6.1500e-003	1.8000e-004	6.3200e-003	0.0000	21.0900	21.0900	1.2000e-003	0.0000	21.1151

Project Name: Midpoint 237 Building 3 & Site

Complete ALL Portions in Yellow

See Example Equipment List TAB for type, horsepower and load factor

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Annual Hours	Comments
	Subgrade, Base and Paving	Start Date:	5/20/2015				
		End Date:	8/1/2015	53			Soil Hauling Volume
1	14 H Cat Blade	240	0.3	8	6.0	40	320
1	623 G Cat Scraper	365	0.59	8	6.0	40	320
1	84" Vibratiry Roller	100	0.4	8	6.0	40	320
1	Rubber Tired Loader (Skiploader)	100	0.5	8	6.0	40	320
1	Other Equipment (Water Truck)	280	0.4	8	6.0	40	320
1	Street Sweeper	275	0.4	4	3.0	40	160
	Other Equipment?						
	Utilities	Start Date:	7/15/2015				
		End Date:	9/30/2015	56			
1	Excavator	162	0.38	8	4.3	30	240
1	Tractor/Loader/Backhoe	97	0.37	8	4.3	30	240
2	Dumper/Tender	16	0.38	8	4.3	30	480
2	Plate Compactor	8	0.43	8	4.3	30	480
	Other Equipment?						
	Building Shell	Start Date:	6/15/2015				
		End Date:	11/30/2015	121			
1	Tractors/Loaders/Backhoes	97	0.37	8	1.3	20	160
1	Dumper/Tender	16	0.38	8	1.3	20	160
1	Concrete Trucks (Other Construction Equipment)	171	0.42	8	1.2	18	144
1	Pumps	84	0.74	8	0.7	10	80
1	Cranes	226	0.29	8	0.7	10	80
3	Forklifts	89	0.2	8	2.6	40	960
3	Generator Sets	84	0.74	8	2.6	40	960
3	Welders	46	0.45	8	1.7	25	600
	Other Equipment?						
	Building Int. & Ext. Finishes	Start Date:	11/15/2015				
		End Date:	1/18/2016	46			
3	Air Compressors	78	0.48	8	5.2	30	720
3	Aerial Lift	62	0.31	8	5.2	30	720
3	Generator Sets	84	0.74	8	5.2	30	720
2	Skid Steer Loaders	64	0.37	8	5.2	30	480
1	Sweeper/Scrubber	64	0.46	8	1.7	10	80
	Other Equipment?						
	Site Concrete, Landscape & Finishes	Start Date:	9/15/2015				
		Start Date:	1/18/2016	90			
1	Concrete Trucks (Other Construction Equipment)	171	0.42	8	0.6	7	56
2	Tractor/Loader/Backhoe	97	0.37	8	3.6	40	640
3	Air Compressors - Striping	78	0.47	8	0.9	10	240
1	Street Sweeper	245	0.4	8	0.9	10	80
	Other Equipment?						
	Paving	Start Date:	10/15/2015				
		Start Date:	11/1/2015	12			
1	Pavers	200	0.4	8	6.7	10	80
2	Roller - Vibratory	130	0.65	8	6.7	10	160
1	Rubber Tired Loader (Skiploader)	100	0.5	8	6.7	10	80
1	Street Sweeper	245	0.4	8	6.7	10	80
	Other Equipment?						

Midpoint B #3 & Site
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	415.00	1000sqft	15.00	415,000.00	0
Manufacturing	217.00	1000sqft	7.00	217,000.00	0
Parking Lot	1,500.00	Space	13.50	600,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	370	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on PG&E rate

Land Use - Based on project size and estimate of acreage. All acreage assumed for land uses

Construction Phase - Based on Project phases and Schedule

Off-road Equipment - Project list

Off-road Equipment - Based on list

Off-road Equipment - Project list

Off-road Equipment - Based on list

Off-road Equipment - Based on construction list

Off-road Equipment - Project list

Trips and VMT - Includes asphalt import for subgrade base & paving. Added cement trucks at vendor haul length. Added in water trucks and tenders

Grading - Based on project list: material = 31,500 and asphalt = 9,500 tons

Vehicle Trips - Using Default rates that are similar to Hexagon

Construction Off-road Equipment Mitigation - Tier 2 and BMPs

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	55.00	46.00
tblConstructionPhase	NumDays	740.00	121.00
tblConstructionPhase	NumDays	75.00	53.00
tblConstructionPhase	NumDays	55.00	12.00
tblConstructionPhase	NumDays	30.00	90.00
tblConstructionPhase	PhaseEndDate	1/4/2016	1/18/2016
tblConstructionPhase	PhaseEndDate	1/18/2016	11/30/2015
tblConstructionPhase	PhaseEndDate	7/31/2015	8/1/2015
tblConstructionPhase	PhaseEndDate	2/3/2016	11/1/2015
tblConstructionPhase	PhaseEndDate	2/3/2016	1/18/2016
tblConstructionPhase	PhaseEndDate	2/16/2016	9/30/2015
tblConstructionPhase	PhaseStartDate	11/2/2015	11/15/2015
tblConstructionPhase	PhaseStartDate	8/2/2015	6/15/2015
tblConstructionPhase	PhaseStartDate	1/19/2016	10/15/2015
tblConstructionPhase	PhaseStartDate	10/1/2015	9/15/2015

tblConstructionPhase	PhaseStartDate	12/1/2015	7/15/2015
tblGrading	AcresOfGrading	39.75	187.50
tblGrading	MaterialImported	0.00	41,000.00
tblLandUse	LotAcreage	9.53	15.00
tblLandUse	LotAcreage	4.98	7.00
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	5.20
tblOffRoadEquipment	UsageHours	7.00	0.70
tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	7.00	1.30
tblOffRoadEquipment	UsageHours	8.00	3.60
tblOffRoadEquipment	UsageHours	8.00	1.70
tblProjectCharacteristics	CO2IntensityFactor	641.35	370
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	4,054.00	4,134.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,722.00
tblTripsAndVMT	HaulingTripNumber	0.00	240.00
tblTripsAndVMT	HaulingTripNumber	0.00	352.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00
tblTripsAndVMT	WorkerTripLength	12.40	1.00

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					
2015	3.0310	2.8831	3.9988	3.3400e-003	0.2584	0.1486	0.4070	0.0871	0.1413	0.2284	0.0000	296.9180	296.9180	0.0491	0.0000	297.9497
2016	0.9046	0.1477	0.1310	2.0000e-004	6.1000e-004	0.0106	0.0112	1.6000e-004	0.0103	0.0105	0.0000	17.3024	17.3024	2.8100e-003	0.0000	17.3615
Total	3.9356	3.0308	4.1298	3.5400e-003	0.2590	0.1592	0.4182	0.0872	0.1516	0.2389	0.0000	314.2204	314.2204	0.0519	0.0000	315.3112

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					
2015	3.0310	2.8831	3.9988	3.3400e-003	0.0871	0.1486	0.2358	0.0276	0.1413	0.1688	0.0000	296.9177	296.9177	0.0491	0.0000	297.9495
2016	0.9046	0.1477	0.1310	2.0000e-004	6.1000e-004	0.0106	0.0112	1.6000e-004	0.0103	0.0105	0.0000	17.3024	17.3024	2.8100e-003	0.0000	17.3615

Total	3.9356	3.0308	4.1298	3.5400e-003	0.0877	0.1592	0.2469	0.0277	0.1516	0.1793	0.0000	314.2201	314.2201	0.0519	0.0000	315.3110
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	66.12	0.00	40.95	68.23	0.00	24.92	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	Subgrade, Base paving	Grading	5/20/2015	8/1/2015	5	53	
2	Building Shell	Building Construction	6/15/2015	11/30/2015	5	121	
3	Utilities	Trenching	7/15/2015	9/30/2015	5	56	
4	Site Concrete, Landscape & Finishes	Site Preparation	9/15/2015	1/18/2016	5	90	
5	Paving	Paving	10/15/2015	11/1/2015	5	12	
6	Building Interior, Exterior Finishes	Architectural Coating	11/15/2015	1/18/2016	5	46	

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: 975,000; Non-Residential Outdoor: 325,000 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Subgrade, Base paving	Rubber Tired Loaders	1	6.00	199	0.36
Subgrade, Base paving	Excavators	0	8.00	162	0.38
Subgrade, Base paving	Graders	0	8.00	174	0.41
Subgrade, Base paving	Rollers	1	6.00	80	0.38
Subgrade, Base paving	Rubber Tired Dozers	1	6.00	255	0.40
Subgrade, Base paving	Scrapers	1	6.00	361	0.48
Subgrade, Base paving	Sweepers/Scrubbers	1	3.00	64	0.46
Subgrade, Base paving	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Shell	Cranes	1	0.70	226	0.29
Building Shell	Pumps	1	0.70	84	0.74
Building Shell	Forklifts	3	2.60	89	0.20
Building Shell	Generator Sets	3	2.60	84	0.74
Utilities	Excavators	1	4.30	162	0.38
Utilities	Tractors/Loaders/Backhoes	1	4.30	97	0.37
Utilities	Plate Compactors	2	4.30	8	0.43
Site Concrete, Landscape & Finishes	Air Compressors	3	0.90	78	0.48
Building Shell	Tractors/Loaders/Backhoes	1	1.30	97	0.37
Building Shell	Welders	3	1.70	46	0.45
Site Concrete, Landscape & Finishes	Sweepers/Scrubbers	1	0.90	64	0.46
Paving	Rubber Tired Loaders	1	6.70	199	0.36
Paving	Sweepers/Scrubbers	1	6.70	64	0.46
Building Interior, Exterior Finishes	Aerial Lifts	3	5.20	62	0.31
Building Interior, Exterior Finishes	Generator Sets	3	5.20	84	0.74
Site Concrete, Landscape & Finishes	Rubber Tired Dozers	0	8.00	255	0.40
Building Interior, Exterior Finishes	Skid Steer Loaders	2	5.20	64	0.37
Site Concrete, Landscape & Finishes	Tractors/Loaders/Backhoes	2	3.60	97	0.37
Paving	Pavers	1	6.70	125	0.42

Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	2	6.70	80	0.38
Building Interior, Exterior Finishes	Sweepers/Scrubbers	1	1.70	64	0.46
Building Interior, Exterior Finishes	Air Compressors	3	5.20	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Subgrade, Base paving	5	13.00	0.00	4,134.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Shell	12	476.00	202.00	1,722.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Utilities	4	10.00	0.00	240.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Concrete, Landscape & Finishes	6	15.00	0.00	352.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Interior, Exterior Finishes	12	95.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Subgrade, Base paving - 2015

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					0.2209	0.0000	0.2209	0.0768	0.0000	0.0768	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0757	0.8923	0.5466	6.7000e-004		0.0409	0.0409		0.0377	0.0377	0.0000	63.9834	63.9834	0.0191	0.0000	64.3845
Total	0.0757	0.8923	0.5466	6.7000e-004	0.2209	0.0409	0.2619	0.0768	0.0377	0.1145	0.0000	63.9834	63.9834	0.0191	0.0000	64.3845

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	0.0248	0.0817	0.3625	1.2000e-004	1.7900e-003	7.2000e-004	2.5100e-003	4.9000e-004	6.6000e-004	1.1500e-003	0.0000	10.3490	10.3490	1.6000e-004	0.0000	10.3525
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	1.0100e-003	3.5000e-004	4.3800e-003	0.0000	2.6000e-004	0.0000	2.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2982	0.2982	2.0000e-005	0.0000	0.2988
Total	0.0258	0.0820	0.3669	1.2000e-004	2.0500e-003	7.2000e-004	2.7700e-003	5.6000e-004	6.6000e-004	1.2200e-003	0.0000	10.6473	10.6473	1.8000e-004	0.0000	10.6512

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					0.0497	0.0000	0.0497	0.0173	0.0000	0.0173	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0757	0.8923	0.5466	6.7000e-004		0.0409	0.0409		0.0377	0.0377	0.0000	63.9833	63.9833	0.0191	0.0000	64.3845
Total	0.0757	0.8923	0.5466	6.7000e-004	0.0497	0.0409	0.0906	0.0173	0.0377	0.0549	0.0000	63.9833	63.9833	0.0191	0.0000	64.3845

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	0.0248	0.0817	0.3625	1.2000e-004	1.7900e-003	7.2000e-004	2.5100e-003	4.9000e-004	6.6000e-004	1.1500e-003	0.0000	10.3490	10.3490	1.6000e-004	0.0000	10.3525
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	1.0100e-003	3.5000e-004	4.3800e-003	0.0000	2.6000e-004	0.0000	2.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2982	0.2982	2.0000e-005	0.0000	0.2988
Total	0.0258	0.0820	0.3669	1.2000e-004	2.0500e-003	7.2000e-004	2.7700e-003	5.6000e-004	6.6000e-004	1.2200e-003	0.0000	10.6473	10.6473	1.8000e-004	0.0000	10.6512

3.3 Building Shell - 2015

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	0.0919	0.6111	0.4406	6.7000e-004		0.0457	0.0457		0.0444	0.0444	0.0000	57.9388	57.9388	9.9700e-003	0.0000	58.1483
Total	0.0919	0.6111	0.4406	6.7000e-004		0.0457	0.0457		0.0444	0.0444	0.0000	57.9388	57.9388	9.9700e-003	0.0000	58.1483

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	0.0103	0.0340	0.1510	5.0000e-005	7.4000e-004	3.0000e-004	1.0400e-003	2.1000e-004	2.7000e-004	4.8000e-004	0.0000	4.3109	4.3109	7.0000e-005	0.0000	4.3123
Vendor	0.1162	0.4258	1.4842	6.0000e-004	0.0111	4.1600e-003	0.0152	3.2000e-003	3.8100e-003	7.0100e-003	0.0000	53.3932	53.3932	7.0000e-004	0.0000	53.4079
Worker	0.0842	0.0296	0.3663	3.2000e-004	0.0214	4.0000e-004	0.0218	5.7300e-003	3.7000e-004	6.0900e-003	0.0000	24.9301	24.9301	2.0900e-003	0.0000	24.9739
Total	0.2108	0.4894	2.0015	9.7000e-004	0.0332	4.8600e-003	0.0381	9.1400e-003	4.4500e-003	0.0136	0.0000	82.6342	82.6342	2.8600e-003	0.0000	82.6941

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	0.0919	0.6111	0.4406	6.7000e-004		0.0457	0.0457		0.0444	0.0444	0.0000	57.9388	57.9388	9.9700e-003	0.0000	58.1482
Total	0.0919	0.6111	0.4406	6.7000e-004		0.0457	0.0457		0.0444	0.0444	0.0000	57.9388	57.9388	9.9700e-003	0.0000	58.1482

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	0.0103	0.0340	0.1510	5.0000e-005	7.4000e-004	3.0000e-004	1.0400e-003	2.1000e-004	2.7000e-004	4.8000e-004	0.0000	4.3109	4.3109	7.0000e-005	0.0000	4.3123
Vendor	0.1162	0.4258	1.4842	6.0000e-004	0.0111	4.1600e-003	0.0152	3.2000e-003	3.8100e-003	7.0100e-003	0.0000	53.3932	53.3932	7.0000e-004	0.0000	53.4079
Worker	0.0842	0.0296	0.3663	3.2000e-004	0.0214	4.0000e-004	0.0218	5.7300e-003	3.7000e-004	6.0900e-003	0.0000	24.9301	24.9301	2.0900e-003	0.0000	24.9739
Total	0.2108	0.4894	2.0015	9.7000e-004	0.0332	4.8600e-003	0.0381	9.1400e-003	4.4500e-003	0.0136	0.0000	82.6342	82.6342	2.8600e-003	0.0000	82.6941

3.4 Utilities - 2015

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	0.0129	0.1326	0.0947	1.4000e-004		7.9500e-003	7.9500e-003		7.3400e-003	7.3400e-003	0.0000	13.0176	13.0176	3.7000e-003	0.0000	13.0954
Total	0.0129	0.1326	0.0947	1.4000e-004		7.9500e-003	7.9500e-003		7.3400e-003	7.3400e-003	0.0000	13.0176	13.0176	3.7000e-003	0.0000	13.0954

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4400e-003	4.7400e-003	0.0210	1.0000e-005	1.0000e-004	4.0000e-005	1.5000e-004	3.0000e-005	4.0000e-005	7.0000e-005	0.0000	0.6008	0.6008	1.0000e-005	0.0000	0.6010
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	8.2000e-004	2.9000e-004	3.5600e-003	0.0000	2.1000e-004	0.0000	2.1000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2424	0.2424	2.0000e-005	0.0000	0.2428
Total	2.2600e-003	5.0300e-003	0.0246	1.0000e-005	3.1000e-004	4.0000e-005	3.6000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	0.8432	0.8432	3.0000e-005	0.0000	0.8438

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	0.0129	0.1326	0.0947	1.4000e-004		7.9500e-003	7.9500e-003		7.3400e-003	7.3400e-003	0.0000	13.0176	13.0176	3.7000e-003	0.0000	13.0954
Total	0.0129	0.1326	0.0947	1.4000e-004		7.9500e-003	7.9500e-003		7.3400e-003	7.3400e-003	0.0000	13.0176	13.0176	3.7000e-003	0.0000	13.0954

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4400e-003	4.7400e-003	0.0210	1.0000e-005	1.0000e-004	4.0000e-005	1.5000e-004	3.0000e-005	4.0000e-005	7.0000e-005	0.0000	0.6008	0.6008	1.0000e-005	0.0000	0.6010
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	8.2000e-004	2.9000e-004	3.5600e-003	0.0000	2.1000e-004	0.0000	2.1000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2424	0.2424	2.0000e-005	0.0000	0.2428
Total	2.2600e-003	5.0300e-003	0.0246	1.0000e-005	3.1000e-004	4.0000e-005	3.6000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	0.8432	0.8432	3.0000e-005	0.0000	0.8438

3.5 Site Concrete, Landscape & Finishes - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.1811	0.1278	1.7000e-004		0.0147	0.0147		0.0138	0.0138	0.0000	15.9602	15.9602	4.0100e-003	0.0000	16.0445
Total	0.0217	0.1811	0.1278	1.7000e-004	0.0000	0.0147	0.0147	0.0000	0.0138	0.0138	0.0000	15.9602	15.9602	4.0100e-003	0.0000	16.0445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8300e-003	6.0300e-003	0.0268	1.0000e-005	1.5000e-004	5.0000e-005	2.0000e-004	4.0000e-005	5.0000e-005	9.0000e-005	0.0000	0.7637	0.7637	1.0000e-005	0.0000	0.7640
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	1.7100e-003	6.0000e-004	7.4400e-003	1.0000e-005	4.3000e-004	1.0000e-005	4.4000e-004	1.2000e-004	1.0000e-005	1.2000e-004	0.0000	0.5064	0.5064	4.0000e-005	0.0000	0.5073
Total	3.5400e-003	6.6300e-003	0.0342	2.0000e-005	5.8000e-004	6.0000e-005	6.4000e-004	1.6000e-004	6.0000e-005	2.1000e-004	0.0000	1.2701	1.2701	5.0000e-005	0.0000	1.2713

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.1811	0.1278	1.7000e-004		0.0147	0.0147		0.0138	0.0138	0.0000	15.9602	15.9602	4.0100e-003	0.0000	16.0444
Total	0.0217	0.1811	0.1278	1.7000e-004	0.0000	0.0147	0.0147	0.0000	0.0138	0.0138	0.0000	15.9602	15.9602	4.0100e-003	0.0000	16.0444

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8300e-003	6.0300e-003	0.0268	1.0000e-005	1.5000e-004	5.0000e-005	2.0000e-004	4.0000e-005	5.0000e-005	9.0000e-005	0.0000	0.7637	0.7637	1.0000e-005	0.0000	0.7640
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	1.7100e-003	6.0000e-004	7.4400e-003	1.0000e-005	4.3000e-004	1.0000e-005	4.4000e-004	1.2000e-004	1.0000e-005	1.2000e-004	0.0000	0.5064	0.5064	4.0000e-005	0.0000	0.5073
Total	3.5400e-003	6.6300e-003	0.0342	2.0000e-005	5.8000e-004	6.0000e-005	6.4000e-004	1.6000e-004	6.0000e-005	2.1000e-004	0.0000	1.2701	1.2701	5.0000e-005	0.0000	1.2713

3.5 Site Concrete, Landscape & Finishes - 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	3.1100e-003	0.0262	0.0195	3.0000e-005		2.0800e-003	2.0800e-003		1.9600e-003	1.9600e-003	0.0000	2.4351	2.4351	6.1000e-004	0.0000	2.4479
Total	3.1100e-003	0.0262	0.0195	3.0000e-005	0.0000	2.0800e-003	2.0800e-003	0.0000	1.9600e-003	1.9600e-003	0.0000	2.4351	2.4351	6.1000e-004	0.0000	2.4479

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	8.4000e-004	3.9600e-003	0.0000	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1161	0.1161	0.0000	0.0000	0.1162
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	8.0000e-005	1.0300e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0753	0.0753	1.0000e-005	0.0000	0.0754
Total	5.0000e-004	9.2000e-004	4.9900e-003	0.0000	1.9000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.1914	0.1914	1.0000e-005	0.0000	0.1915

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	3.1100e-003	0.0262	0.0195	3.0000e-005		2.0800e-003	2.0800e-003		1.9600e-003	1.9600e-003	0.0000	2.4351	2.4351	6.1000e-004	0.0000	2.4479
Total	3.1100e-003	0.0262	0.0195	3.0000e-005	0.0000	2.0800e-003	2.0800e-003	0.0000	1.9600e-003	1.9600e-003	0.0000	2.4351	2.4351	6.1000e-004	0.0000	2.4479

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	8.4000e-004	3.9600e-003	0.0000	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1161	0.1161	0.0000	0.0000	0.1162
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	8.0000e-005	1.0300e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0753	0.0753	1.0000e-005	0.0000	0.0754
Total	5.0000e-004	9.2000e-004	4.9900e-003	0.0000	1.9000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.1914	0.1914	1.0000e-005	0.0000	0.1915

3.6 Paving - 2015

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	0.1116	0.0551	9.0000e-005		6.5600e-003	6.5600e-003		6.0300e-003	6.0300e-003	0.0000	8.8199	8.8199	2.6300e-003	0.0000	8.8752
Paving	0.0177					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0284	0.1116	0.0551	9.0000e-005		6.5600e-003	6.5600e-003		6.0300e-003	6.0300e-003	0.0000	8.8199	8.8199	2.6300e-003	0.0000	8.8752

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	2.3000e-004	8.0000e-005	9.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0675	0.0675	1.0000e-005	0.0000	0.0676
Total	2.3000e-004	8.0000e-005	9.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0675	0.0675	1.0000e-005	0.0000	0.0676

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	0.0107	0.1116	0.0551	9.0000e-005		6.5600e-003	6.5600e-003		6.0300e-003	6.0300e-003	0.0000	8.8199	8.8199	2.6300e-003	0.0000	8.8752
Paving	0.0177					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0284	0.1116	0.0551	9.0000e-005		6.5600e-003	6.5600e-003		6.0300e-003	6.0300e-003	0.0000	8.8199	8.8199	2.6300e-003	0.0000	8.8752

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	2.3000e-004	8.0000e-005	9.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0675	0.0675	1.0000e-005	0.0000	0.0676
Total	2.3000e-004	8.0000e-005	9.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0675	0.0675	1.0000e-005	0.0000	0.0676

3.7 Building Interior, Exterior Finishes - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5052					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0480	0.3695	0.2855	4.6000e-004		0.0271	0.0271		0.0268	0.0268	0.0000	40.3377	40.3377	6.4600e-003	0.0000	40.4734
Total	2.5532	0.3695	0.2855	4.6000e-004		0.0271	0.0271		0.0268	0.0268	0.0000	40.3377	40.3377	6.4600e-003	0.0000	40.4734

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	4.7200e-003	1.6600e-003	0.0205	2.0000e-005	1.2000e-003	2.0000e-005	1.2200e-003	3.2000e-004	2.0000e-005	3.4000e-004	0.0000	1.3981	1.3981	1.2000e-004	0.0000	1.4005
Total	4.7200e-003	1.6600e-003	0.0205	2.0000e-005	1.2000e-003	2.0000e-005	1.2200e-003	3.2000e-004	2.0000e-005	3.4000e-004	0.0000	1.3981	1.3981	1.2000e-004	0.0000	1.4005

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5052					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0480	0.3695	0.2855	4.6000e-004		0.0271	0.0271		0.0268	0.0268	0.0000	40.3376	40.3376	6.4600e-003	0.0000	40.4733
Total	2.5532	0.3695	0.2855	4.6000e-004		0.0271	0.0271		0.0268	0.0268	0.0000	40.3376	40.3376	6.4600e-003	0.0000	40.4733

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	4.7200e-003	1.6600e-003	0.0205	2.0000e-005	1.2000e-003	2.0000e-005	1.2200e-003	3.2000e-004	2.0000e-005	3.4000e-004	0.0000	1.3981	1.3981	1.2000e-004	0.0000	1.4005
Total	4.7200e-003	1.6600e-003	0.0205	2.0000e-005	1.2000e-003	2.0000e-005	1.2200e-003	3.2000e-004	2.0000e-005	3.4000e-004	0.0000	1.3981	1.3981	1.2000e-004	0.0000	1.4005

3.7 Building Interior, Exterior Finishes - 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					
Archit. Coating	0.8842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0153	0.1200	0.1000	1.6000e-004		8.4900e-003	8.4900e-003		8.3700e-003	8.3700e-003	0.0000	14.1993	14.1993	2.1600e-003	0.0000	14.2447
Total	0.8995	0.1200	0.1000	1.6000e-004		8.4900e-003	8.4900e-003		8.3700e-003	8.3700e-003	0.0000	14.1993	14.1993	2.1600e-003	0.0000	14.2447

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	1.5400e-003	5.2000e-004	6.5000e-003	1.0000e-005	4.2000e-004	1.0000e-005	4.3000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.4766	0.4766	4.0000e-005	0.0000	0.4774
Total	1.5400e-003	5.2000e-004	6.5000e-003	1.0000e-005	4.2000e-004	1.0000e-005	4.3000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.4766	0.4766	4.0000e-005	0.0000	0.4774

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	0.8842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0153	0.1200	0.1000	1.6000e-004		8.4900e-003	8.4900e-003		8.3700e-003	8.3700e-003	0.0000	14.1993	14.1993	2.1600e-003	0.0000	14.2447
Total	0.8995	0.1200	0.1000	1.6000e-004		8.4900e-003	8.4900e-003		8.3700e-003	8.3700e-003	0.0000	14.1993	14.1993	2.1600e-003	0.0000	14.2447

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	1.5400e-003	5.2000e-004	6.5000e-003	1.0000e-005	4.2000e-004	1.0000e-005	4.3000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.4766	0.4766	4.0000e-005	0.0000	0.4774
Total	1.5400e-003	5.2000e-004	6.5000e-003	1.0000e-005	4.2000e-004	1.0000e-005	4.3000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.4766	0.4766	4.0000e-005	0.0000	0.4774