Appendix AQ

Air Quality Analysis (CalEEMod Results)

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Project No: 19-07539

Kenneth Rosales
Planning, Building & Code Enforcement
City of San José
200 East Santa Clara Street, San José, California 95113
Via email: kenneth.rosales@sanjoseca.gov

Subject: STACK Data Center Project, Appendix AQ

Dear Mr. Rosales:

Rincon Consultants, Inc. (Rincon) completed the primary air quality, energy, and greenhouse gas analysis for the STACK Data Center Project to support the Initial Study Mitigated Negative Declaration (IS/MND). As part of this analysis, Rincon completed a construction Health Risk Assessment (HRA) which evaluates the potential health risk to off-site receptors due to construction of the proposed project, while the results of the operational HRA prepared by ProActive Consulting Group (ProActive) were also incorporated and evaluate potential health risk to existing residents and workers nearby due to the operation of the data center, and specifically, the operation of diesel generators associated with the project (see Appendix HRA for more specific information on the HRA component of the project). A brief description of the technical analysis is included below for air quality, energy, and greenhouse gas emissions,[1] with additional information provided in each section of the IS/MND. In addition to the brief written descriptions below, this appendix also provides a summary of all calculation sheets used in the analysis.

Air Quality

The operational air quality emissions are a combination of the results from the Operational Health Risk Assessment (HRA) completed for the project by ProActive as well as the results of the California Emissions Estimator Model (CalEEMod) version 2016.3.2, based on project specific inputs, as outlined further below and in the Air Quality Section of the IS/MND.

Operational Emissions

The BAAQMD does not have screening criteria for data centers; therefore, project emissions were calculated using CalEEMod. Stationary source emissions associated with the operation of the 20 standby diesel generators were calculated based on manufacturer specifications, exhaust emission data for USEPA Tier 2 emissions standards, and the estimated frequency and duration of operation of the generators. Per the 2017 BAAQMD CEQA Guidelines emissions from newly constructed stationary sources subject to Air District permitting should be added to the indirect and area sources emissions

1 Air quality is discussed in the air quality section of the IS/MND as well as the HRA Appendix.

estimates after the application of Best Available Control Technology (BACT) or offsets to estimate total project emissions. As discussed in the following section, the generators would be required to apply BACT, such as a diesel particulate filter (DPF) achieving 85 percent reduction in diesel particulate matter pursuant to Regulation 2 Rule 5 Section 2-5-301. Consistent with the health risk assessment (HRA) prepared by ProActive for operational emissions associated with the diesel generators, stationary source criteria pollutant emissions were calculated assuming 50 hours of operation per year after implementation of BACT and have been added to the operational emissions shown in Table 1. Long-term emissions associated with project operation, as shown in Table 1, would include emissions from vehicle trips (mobile sources) and electricity use (energy sources), landscape maintenance equipment, consumer products, and architectural coating associated with on-site development (area sources), and the 20 emergency generators on site (stationary sources).

Table 1 Operational Emissions

Pollutant	Annual Emissions (tpy)	BAAQMD Annual Significance Threshold (tpy)	Average Daily Emissions (lbs/day)[1]	BAAQMD Daily Significance Threshold (lbs/day)	Significant Impact?
ROG	0.9 + 1.8 = 2.7	10	4.2+ 9.6 = 13.8	54	No
NO_x	0.6 + 19.4 = 20.0	10	1.0 + 106.1 = 107.1	54	Yes
PM_{10}	0.2 + 0.1= 0.3	15	1.0 0.3 = 1.3	82	No
$PM_{2.5}$	0.1 + 0.1 = 0.1	10	0.3 + 0.3 = 0.6	54	No

See Appendix AQ for CalEEMod worksheets and stationary source emission calculations.
Totals may not add up due to rounding

[1] Average daily emissions are reported as the sum of the highest maximum daily emissions determined for winter and summer time period as lbs/day in CalEEMod as well as the average daily emissions calculated by ProActive for the diesel generators.

Energy

Energy relates directly to environmental quality. Energy use can affect air quality and other natural resources adversely. Fossil fuels are burned to create electricity that powers homes and commercial/industrial buildings, to create heat, and to power vehicles. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes such as auto, carpool, and public transit; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the use of natural gas and electricity. For the purpose of this project, as outlined in the Energy section in detail – natural gas will not be used and is therefore not considered.

Construction Energy Demand

During project construction, energy would be consumed in the form of petroleum-based fuels used to power construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. The project would require site

preparation and grading, including: hauling material off-site, pavement and asphalt installation, building construction, architectural coating, and landscaping and hardscaping.

The total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from CalEEMod used to estimate construction air emissions. Table 2 (shown as Table 16 in the IS/MND) presents the estimated construction phase energy consumption, indicating construction equipment, vendor trips, and worker trips would consume approximately 64,497 gallons of fuel over the project construction period. Construction equipment would consume an estimated 43,926 gallons of fuel; vendor and hauling trips would consume approximately 8,955 gallons of fuel; and worker trips would consume approximately 11,616 gallons of fuel over the combined phases of project construction.

Table 2 Estimated Fuel Consumption During Construction

Fuel Type	Gallons of Fuel	MMBtu[4]
Diesel Fuel (Construction Equipment)[1]	43,926	6,035
Diesel Fuel (Hauling & Vendor Trips)[2]	8,955	1,230
Other Petroleum Fuel (Worker Trips)[3]	11,616	1,398
Total	**64,497**	**8,663**

[1] Fuel demand rate for construction equipment is derived from the total hours of operation, the equipment's horse power, the equipment's load factor, and the equipment's fuel usage per horse power per hour of operation, which are all taken from CalEEMod outputs (see Appendix AQ), and from compression-ignition engine brake-specific fuel consumptions factors for engines between 0 to 100 horsepower and greater than 100 horsepower (U.S. EPA 2018). Fuel consumed for all construction equipment is assumed to be diesel fuel.

[2] Fuel demand rate for hauling and vendor trips (cut material imports) is derived from hauling and vendor trip number, hauling and vendor trip length, and hauling and vendor vehicle class from "Trips and VMT" Table contained in Section 3.0, *Construction Detail*, of the CalEEMod results (see Appendix AQ). The fuel economy for hauling and vendor trip vehicles is derived from the United States Department of Transportation (DOT 2018). Fuel consumed for all hauling trucks is assumed to be diesel fuel.

[3] The fuel economy for worker trip vehicles is derived from the U.S. Department of Transportation National Transportation Statistics (24 mpg) (DOT 2018). Fuel consumed for all worker trips is assumed to be gasoline fuel.

[4] CaRFG CA-GREET 2.0 fuel specification of 109,786 Btu/gallon used to identify conversion rate for fuel energy consumption for worker trips specified above (California Air Resources Board [CARB] 2015). Low-sulfur Diesel CA-GREET 2.0 fuel specification of 127,464 Btu/gallon used to identify conversion rate for fuel energy consumption for construction equipment specified above (CARB 2015). Totals may not add up due to rounding.

Notes: 1 MMBtu is equal to 1 million BTU

Greenhouse Gas Emissions

Methodology

Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO_2, CH_4, and N_2O because these make up 98 percent of all GHG emissions by volume and are the GHG emissions that the project would emit in the largest quantities (IPCC 2014). Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for the analysis. However, because the project is a data center, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent GWP in terms of CO_2 (CO_2e). Minimal amounts of other GHGs (such as

chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total calculated CO_2e amounts. Calculations are based on the methodologies discussed in the California Air Pollution Control Officers Association (CAPCOA) CEQA and Climate Change white paper (CAPCOA 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (CCAR 2009).

Construction Emissions

Although construction activity is addressed in this analysis, California Air Pollution Control Officers Association (CAPCOA) does not discuss whether any of the suggested threshold approaches adequately address impacts from temporary construction activity. As stated in the *CEQA and Climate Change* white paper, "more study is needed to make this assessment or to develop separate thresholds for construction activity" (CAPCOA 2008). The BAAQMD has not established a threshold of significance for construction-related GHG emissions. Per the recommendation of the BAAQMD the construction emissions are quantified and provided for informational purposes but are not used in determining the significance of GHG emissions.

Operational Emissions

BAAQMD identifies sources of information on potential thresholds of significance and mitigation strategies for operational GHG emissions from land-use development projects and stationary sources in its CEQA Air Quality Guidelines. The BAAQMD CEQA Guidelines also outline a methodology for estimating GHGs.

In jurisdictions where a qualified Greenhouse Gas Reduction Strategy has been reviewed under CEQA and adopted by decision-makers, compliance with the Greenhouse Gas Reduction Strategy would reduce a project's contribution to cumulative GHG emission impacts to a less than significant level. The BAAQMD CEQA Guidelines also outline a methodology for estimating GHGs.

CalEEMod provides operational emissions of CO_2, N_2O, and CH_4. Emissions from energy use include electricity use. Electricity emissions are calculated by multiplying the energy use by the carbon intensity of the utility district per kilowatt hour (CalEEMod 2017). The electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies.

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from CARB, USEPA, and emission factor values provided by the local air district (CalEEMod 2017).

Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for northern and southern California.

STACK Data Center Expansion Project

Santa Clara County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	239.72	1000sqft	5.50	162,422.00	0
Parking Lot	148.00	Space	1.33	59,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The estimate of the project's total daily trips was based on the ITE Manual 10th Edition and was entered into CalEEMod to calculate total annual vehicle miles traveled. However, because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using guidance from CARB (CARB 2013; see Appendix GHG for calculations) and are based on CalEEMod outputs and the vehicle mix obtained from the EMFAC2014 Emissions Inventory for the BAAQMD region for the project's buildout year (2020) using the most recent EMFAC2011 categories (CARB 2019).

Threshold

The BAAQMD annual emissions threshold of 1,100 MT of CO2e per year was designed to capture 90 percent of all emissions associated with projects in the Basin and require implementation of mitigation so that a considerable reduction in emissions from new projects would be achieved. According to the CAPCOA white paper, *CEQA & Climate Change*, a quantitative threshold based on a 90 percent market capture rate is generally consistent with AB 32 (CAPCOA 2008). However, because the project would be operational post-2020, the established BAAQMD bright-line threshold would not apply.

An efficiency threshold is calculated by dividing the allowable GHG emissions inventory in a selected calendar year by the service population (residents plus employees). This calculation identifies the quantity of emissions that can be permitted on a per service population basis without significantly impacting the environment. According to the BAAQMD CEQA Guidelines, the efficiency threshold is appropriate for mixed-use projects that include both residential and non-residential land uses. Therefore, this approach is not appropriate for the proposed project because there are no residents. Additionally, BAU emissions are no longer recommended following the Newhall Ranch ruling. Therefore, although the BAAQMD has not yet quantified a threshold for 2030, reduction of the 1,100 MT CO_2e bright-line threshold by 40 percent to 660 MT CO_2e/year would be consistent with state goals detailed in SB 32. As such, the adjusted bright-line threshold of 660 MT CO_2e is the most appropriate threshold for the project. Additionally, as noted in Section 4.6 *Energy*, stand-by diesel generators on the project site would have the capacity to produce 60 MW of electric power. The project would meet the definition of a small power plant under California Energy Commission regulations and would be required to apply for and obtain a Small Power Plant Exemption prior to operations of the project. The stationary source threshold of 10,000 MT of CO_2e per year was developed to capture approximately 95 percent of all GHGs from permitted sources therefore capturing the largest and most significant stationary source of GHGs. As such, the stationary source threshold is considered an appropriate thresholds for use in determining the significance of project impacts related to stationary sources (BAAQMD 2017b). Per 2017 BAAQMD CEQA guidelines, new stationary sources should be evaluated separately from project operation emissions associated with land use and are not considered "cumulatively considerable" from a land use perspective if the stationary sources comply with the 10,000 MT CO_2e per year threshold.

CalEEMod Output

Project Characteristics - SJCE intensity factors not available, so used PG&E intensity factors as highly conservative estimate.

Land Use - Per project plans revised 5.1.19, building footprint is 162,422

Construction Phase - Per applicant estimate 18 months construction period

Demolition - Estimated existing 1-story building square footage at 64,037 sf

Grading - Per applicant estimate balanced cut/ fill

Architectural Coating - Per Regulation 8 BAAQMD Architecutral Coatings for nonresidential flat coatings 100 g/L

Vehicle Trips - Hexagon Transportation Analysis - November 20, 2019

Energy Use - Energy calculated separately.

Water And Wastewater - Applicant provided estimated water demand (Average Annual Usage) 164,369,954 GPY

Stationary Sources - Emergency Generators and Fire Pumps - Per Cat C175-16 Diesel Generator Sets and estimate generators will be run a total of 16 hours per year for maintenance.

STACK Data Center Expansion Project - Santa Clara County, Summer

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblConstructionPhase	NumDays	20.00	176.00
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	19.71	0.00
tblLandUse	LandUseSquareFeet	239,720.00	162,422.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	187.70
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	20.00
tblVehicleTrips	ST_TR	1.32	0.66
tblVehicleTrips	SU_TR	0.68	0.66
tblVehicleTrips	WD_TR	6.97	0.66
tblWater	IndoorWaterUseRate	55,435,250.00	164,369,954.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	11.5863	42.4558	23.0035	0.0516	18.2141	2.1983	20.4125	9.9699	2.0225	11.9924	0.0000	5,100.6561	5,100.6561	1.1954	0.0000	5,128.5496
2021	11.2904	22.8324	22.1375	0.0485	1.1638	1.0664	2.2302	0.3142	1.0083	1.3225	0.0000	4,745.2135	4,745.2135	0.7392	0.0000	4,762.6742
Maximum	**11.5863**	**42.4558**	**23.0035**	**0.0516**	**18.2141**	**2.1983**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**5,100.6561**	**5,100.6561**	**1.1954**	**0.0000**	**5,128.5496**

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	lb/day										lb/day					
2020	11.5863	42.4558	23.0035	0.0516	18.2141	2.1983	20.4125	9.9699	2.0225	11.9924	0.0000	5,100.6561	5,100.6561	1.1954	0.0000	5,128.5496
2021	11.2904	22.8324	22.1375	0.0485	1.1638	1.0664	2.2302	0.3142	1.0083	1.3225	0.0000	4,745.2135	4,745.2135	0.7392	0.0000	4,762.6742
Maximum	**11.5863**	**42.4558**	**23.0035**	**0.0516**	**18.2141**	**2.1983**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**5,100.6561**	**5,100.6561**	**1.1954**	**0.0000**	**5,128.5496**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9713	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2501	0.9417	2.9788	0.0107	0.9771	8.4500e-003	0.9855	0.2608	7.8900e-003	0.2687		1,079.5444	1,079.5444	0.0336		1,080.3831
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.2215**	**0.9421**	**3.0184**	**0.0107**	**0.9771**	**8.5900e-003**	**0.9857**	**0.2608**	**8.0300e-003**	**0.2688**		**1,079.6292**	**1,079.6292**	**0.0338**	**0.0000**	**1,080.4736**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9713	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2501	0.9417	2.9788	0.0107	0.9771	8.4500e-003	0.9855	0.2608	7.8900e-003	0.2687		1,079.5444	1,079.5444	0.0336		1,080.3831
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.2215**	**0.9421**	**3.0184**	**0.0107**	**0.9771**	**8.5900e-003**	**0.9857**	**0.2608**	**8.0300e-003**	**0.2688**		**1,079.6292**	**1,079.6292**	**0.0338**	**0.0000**	**1,080.4736**

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

3.0 Construction Detail

Construction Phase

STACK Data Center Expansion Project - Santa Clara County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/18/2020	5	10	
3	Grading	Grading	2/19/2020	3/24/2020	5	20	
4	Building Construction	Building Construction	3/25/2020	3/30/2021	5	230	
5	Architectural Coating	Architectural Coating	9/28/2020	5/31/2021	5	176	
6	Paving	Paving	3/31/2021	4/27/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 1.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 243,633; Non-Residential Outdoor: 81,211; Striped Parking Area: 3,552 (Architectural Coating – sqft)

OffRoad Equipment

STACK Data Center Expansion Project - Santa Clara County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	291.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	93.00	36.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1518	0.0000	3.1518	0.4772	0.0000	0.4772			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**3.1518**	**1.6587**	**4.8105**	**0.4772**	**1.5419**	**2.0191**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.1195	4.1374	0.8377	0.0116	0.2543	0.0136	0.2679	0.0697	0.0130	0.0827		1,232.0502	1,232.0502	0.0548		1,233.4211
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
Worker	0.0521	0.0320	0.4126	1.2100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		120.9010	120.9010	2.9600e-003		120.9749
Total	**0.1717**	**4.1695**	**1.2503**	**0.0128**	**0.3775**	**0.0144**	**0.3919**	**0.1024**	**0.0137**	**0.1161**		**1,352.9512**	**1,352.9512**	**0.0578**		**1,354.3960**

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	lb/day										lb/day					
Fugitive Dust					3.1518	0.0000	3.1518	0.4772	0.0000	0.4772			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**3.1518**	**1.6587**	**4.8105**	**0.4772**	**1.5419**	**2.0191**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.1195	4.1374	0.8377	0.0116	0.2543	0.0136	0.2679	0.0697	0.0130	0.0827		1,232.0502	1,232.0502	0.0548		1,233.4211
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
Worker	0.0521	0.0320	0.4126	1.2100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		120.9010	120.9010	2.9600e-003		120.9749
Total	**0.1717**	**4.1695**	**1.2503**	**0.0128**	**0.3775**	**0.0144**	**0.3919**	**0.1024**	**0.0137**	**0.1161**		**1,352.9512**	**1,352.9512**	**0.0578**		**1,354.3960**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0626	0.0384	0.4951	1.4600e-003	0.1479	9.2000e-004	0.1488	0.0392	8.5000e-004	0.0401		145.0812	145.0812	3.5500e-003		145.1699
Total	**0.0626**	**0.0384**	**0.4951**	**1.4600e-003**	**0.1479**	**9.2000e-004**	**0.1488**	**0.0392**	**8.5000e-004**	**0.0401**		**145.0812**	**145.0812**	**3.5500e-003**		**145.1699**

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0626	0.0384	0.4951	1.4600e-003	0.1479	9.2000e-004	0.1488	0.0392	8.5000e-004	0.0401		145.0812	145.0812	3.5500e-003		145.1699
Total	**0.0626**	**0.0384**	**0.4951**	**1.4600e-003**	**0.1479**	**9.2000e-004**	**0.1488**	**0.0392**	**8.5000e-004**	**0.0401**		**145.0812**	**145.0812**	**3.5500e-003**		**145.1699**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.0521	0.0320	0.4126	1.2100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		120.9010	120.9010	2.9600e-003		120.9749
Total	**0.0521**	**0.0320**	**0.4126**	**1.2100e-003**	**0.1232**	**7.7000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**120.9010**	**120.9010**	**2.9600e-003**		**120.9749**

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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.0521	0.0320	0.4126	1.2100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		120.9010	120.9010	2.9600e-003		120.9749
Total	**0.0521**	**0.0320**	**0.4126**	**1.2100e-003**	**0.1232**	**7.7000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**120.9010**	**120.9010**	**2.9600e-003**		**120.9749**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.1399	4.0484	1.0253	9.9200e-003	0.2437	0.0202	0.2639	0.0702	0.0193	0.0895		1,048.6760	1,048.6760	0.0460		1,049.8261
Worker	0.3233	0.1985	2.5578	7.5200e-003	0.7640	4.7700e-003	0.7687	0.2026	4.3900e-003	0.2070		749.5860	749.5860	0.0183		750.0445
Total	**0.4631**	**4.2469**	**3.5831**	**0.0174**	**1.0077**	**0.0249**	**1.0326**	**0.2728**	**0.0237**	**0.2965**		**1,798.2619**	**1,798.2619**	**0.0643**		**1,799.8706**

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.1399	4.0484	1.0253	9.9200e-003	0.2437	0.0202	0.2639	0.0702	0.0193	0.0895		1,048.6760	1,048.6760	0.0460		1,049.8261
Worker	0.3233	0.1985	2.5578	7.5200e-003	0.7640	4.7700e-003	0.7687	0.2026	4.3900e-003	0.2070		749.5860	749.5860	0.0183		750.0445
Total	**0.4631**	**4.2469**	**3.5831**	**0.0174**	**1.0077**	**0.0249**	**1.0326**	**0.2728**	**0.0237**	**0.2965**		**1,798.2619**	**1,798.2619**	**0.0643**		**1,799.8706**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

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	lb/day										lb/day					
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
Vendor	0.1148	3.6597	0.9224	9.8200e-003	0.2437	8.0900e-003	0.2518	0.0702	7.7400e-003	0.0779		1,039.0294	1,039.0294	0.0433		1,040.1119
Worker	0.2995	0.1774	2.3436	7.2600e-003	0.7640	4.6400e-003	0.7686	0.2026	4.2700e-003	0.2069		723.5501	723.5501	0.0164		723.9611
Total	**0.4143**	**3.8372**	**3.2660**	**0.0171**	**1.0077**	**0.0127**	**1.0204**	**0.2728**	**0.0120**	**0.2848**		**1,762.5795**	**1,762.5795**	**0.0597**		**1,764.0730**

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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

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	lb/day										lb/day					
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
Vendor	0.1148	3.6597	0.9224	9.8200e-003	0.2437	8.0900e-003	0.2518	0.0702	7.7400e-003	0.0779		1,039.0294	1,039.0294	0.0433		1,040.1119
Worker	0.2995	0.1774	2.3436	7.2600e-003	0.7640	4.6400e-003	0.7686	0.2026	4.2700e-003	0.2069		723.5501	723.5501	0.0164		723.9611
Total	**0.4143**	**3.8372**	**3.2660**	**0.0171**	**1.0077**	**0.0127**	**1.0204**	**0.2728**	**0.0120**	**0.2848**		**1,762.5795**	**1,762.5795**	**0.0597**		**1,764.0730**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.6952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**8.9373**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.6 Architectural Coating - 2020

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	lb/day										lb/day					
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
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
Worker	0.0660	0.0406	0.5226	1.5400e-003	0.1561	9.7000e-004	0.1571	0.0414	9.0000e-004	0.0423		153.1412	153.1412	3.7500e-003		153.2349
Total	**0.0660**	**0.0406**	**0.5226**	**1.5400e-003**	**0.1561**	**9.7000e-004**	**0.1571**	**0.0414**	**9.0000e-004**	**0.0423**		**153.1412**	**153.1412**	**3.7500e-003**		**153.2349**

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	lb/day										lb/day					
Archit. Coating	8.6952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**8.9373**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.6 Architectural Coating - 2020

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	lb/day										lb/day					
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
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
Worker	0.0660	0.0406	0.5226	1.5400e-003	0.1561	9.7000e-004	0.1571	0.0414	9.0000e-004	0.0423		153.1412	153.1412	3.7500e-003		153.2349
Total	**0.0660**	**0.0406**	**0.5226**	**1.5400e-003**	**0.1561**	**9.7000e-004**	**0.1571**	**0.0414**	**9.0000e-004**	**0.0423**		**153.1412**	**153.1412**	**3.7500e-003**		**153.2349**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.6952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**8.9141**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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	lb/day										lb/day					
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
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
Worker	0.0612	0.0363	0.4788	1.4800e-003	0.1561	9.5000e-004	0.1570	0.0414	8.7000e-004	0.0423		147.8221	147.8221	3.3600e-003		147.9060
Total	**0.0612**	**0.0363**	**0.4788**	**1.4800e-003**	**0.1561**	**9.5000e-004**	**0.1570**	**0.0414**	**8.7000e-004**	**0.0423**		**147.8221**	**147.8221**	**3.3600e-003**		**147.9060**

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	lb/day										lb/day					
Archit. Coating	8.6952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**8.9141**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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	lb/day										lb/day					
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
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
Worker	0.0612	0.0363	0.4788	1.4800e-003	0.1561	9.5000e-004	0.1570	0.0414	8.7000e-004	0.0423		147.8221	147.8221	3.3600e-003		147.9060
Total	**0.0612**	**0.0363**	**0.4788**	**1.4800e-003**	**0.1561**	**9.5000e-004**	**0.1570**	**0.0414**	**8.7000e-004**	**0.0423**		**147.8221**	**147.8221**	**3.3600e-003**		**147.9060**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4298**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.7 Paving - 2021

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	lb/day										lb/day					
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
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
Worker	0.0483	0.0286	0.3780	1.1700e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		116.7016	116.7016	2.6500e-003		116.7679
Total	**0.0483**	**0.0286**	**0.3780**	**1.1700e-003**	**0.1232**	**7.5000e-004**	**0.1240**	**0.0327**	**6.9000e-004**	**0.0334**		**116.7016**	**116.7016**	**2.6500e-003**		**116.7679**

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	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4298**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.7 Paving - 2021

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	lb/day										lb/day					
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
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
Worker	0.0483	0.0286	0.3780	1.1700e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		116.7016	116.7016	2.6500e-003		116.7679
Total	**0.0483**	**0.0286**	**0.3780**	**1.1700e-003**	**0.1232**	**7.5000e-004**	**0.1240**	**0.0327**	**6.9000e-004**	**0.0334**		**116.7016**	**116.7016**	**2.6500e-003**		**116.7679**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2501	0.9417	2.9788	0.0107	0.9771	8.4500e-003	0.9855	0.2608	7.8900e-003	0.2687		1,079.5444	1,079.5444	0.0336		1,080.3831
Unmitigated	0.2501	0.9417	2.9788	0.0107	0.9771	8.4500e-003	0.9855	0.2608	7.8900e-003	0.2687		1,079.5444	1,079.5444	0.0336		1,080.3831

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	158.22	158.22	158.22	461,911	461,911
Parking Lot	0.00	0.00	0.00		
Total	158.22	158.22	158.22	461,911	461,911

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9713	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Unmitigated	3.9713	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4708					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4968					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6900e-003	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Total	**3.9713**	**3.6000e-004**	**0.0397**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0849**	**0.0849**	**2.2000e-004**		**0.0905**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4708					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4968					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6900e-003	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Total	**3.9713**	**3.6000e-004**	**0.0397**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0849**	**0.0849**	**2.2000e-004**		**0.0905**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	20	0	50	187.7	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (175 - 300 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

STACK Data Center Expansion Project

Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	239.72	1000sqft	5.50	162,422.00	0
Parking Lot	148.00	Space	1.33	59,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SJCE intensity factors not available, so used PG&E intensity factors as highly conservative estimate.

Land Use - Per project plans revised 5.1.19, building footprint is 162,422

Construction Phase - Per applicant estimate 18 months construction period

Demolition - Estimated existing 1-story building square footage at 64,037 sf

Grading - Per applicant estimate balanced cut/ fill

Architectural Coating - Per Regulation 8 BAAQMD Architecutral Coatings for nonresidential flat coatings 100 g/L

Vehicle Trips - Hexagon Transportation Analysis - November 20, 2019

Energy Use - Energy calculated separately.

Water And Wastewater - Applicant provided estimated water demand (Average Annual Usage) 164,369,954 GPY

Stationary Sources - Emergency Generators and Fire Pumps - Per Cat C175-16 Diesel Generator Sets and estimate generators will be run a total of 16 hours per year for maintenance.

STACK Data Center Expansion Project - Santa Clara County, Winter

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblConstructionPhase	NumDays	20.00	176.00
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	19.71	0.00
tblLandUse	LandUseSquareFeet	239,720.00	162,422.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	187.70
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	20.00
tblVehicleTrips	ST_TR	1.32	0.66
tblVehicleTrips	SU_TR	0.68	0.66
tblVehicleTrips	WD_TR	6.97	0.66
tblWater	IndoorWaterUseRate	55,435,250.00	164,369,954.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	11.6185	42.4643	23.0370	0.0513	18.2141	2.1983	20.4125	9.9699	2.0225	11.9924	0.0000	5,069.9414	5,069.9414	1.1951	0.0000	5,097.8943
2021	11.3209	22.9123	22.0545	0.0475	1.1638	1.0667	2.2305	0.3142	1.0085	1.3227	0.0000	4,647.9259	4,647.9259	0.7388	0.0000	4,665.4353
Maximum	**11.6185**	**42.4643**	**23.0370**	**0.0513**	**18.2141**	**2.1983**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**5,069.9414**	**5,069.9414**	**1.1951**	**0.0000**	**5,097.8943**

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	lb/day										lb/day					
2020	11.6185	42.4643	23.0370	0.0513	18.2141	2.1983	20.4125	9.9699	2.0225	11.9924	0.0000	5,069.9414	5,069.9414	1.1951	0.0000	5,097.8943
2021	11.3209	22.9123	22.0545	0.0475	1.1638	1.0667	2.2305	0.3142	1.0085	1.3227	0.0000	4,647.9259	4,647.9259	0.7388	0.0000	4,665.4353
Maximum	**11.6185**	**42.4643**	**23.0370**	**0.0513**	**18.2141**	**2.1983**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**5,069.9414**	**5,069.9414**	**1.1951**	**0.0000**	**5,097.8943**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9713	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2183	0.9983	2.8911	9.9700e-003	0.9771	8.4900e-003	0.9856	0.2608	7.9300e-003	0.2687		1,006.5889	1,006.5889	0.0335		1,007.4272
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.1896**	**0.9987**	**2.9307**	**9.9700e-003**	**0.9771**	**8.6300e-003**	**0.9857**	**0.2608**	**8.0700e-003**	**0.2689**		**1,006.6737**	**1,006.6737**	**0.0338**	**0.0000**	**1,007.5177**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9713	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2183	0.9983	2.8911	9.9700e-003	0.9771	8.4900e-003	0.9856	0.2608	7.9300e-003	0.2687		1,006.5889	1,006.5889	0.0335		1,007.4272
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.1896**	**0.9987**	**2.9307**	**9.9700e-003**	**0.9771**	**8.6300e-003**	**0.9857**	**0.2608**	**8.0700e-003**	**0.2689**		**1,006.6737**	**1,006.6737**	**0.0338**	**0.0000**	**1,007.5177**

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

3.0 Construction Detail

Construction Phase

STACK Data Center Expansion Project - Santa Clara County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/18/2020	5	10	
3	Grading	Grading	2/19/2020	3/24/2020	5	20	
4	Building Construction	Building Construction	3/25/2020	3/30/2021	5	230	
5	Architectural Coating	Architectural Coating	9/28/2020	5/31/2021	5	176	
6	Paving	Paving	3/31/2021	4/27/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 1.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 243,633; Non-Residential Outdoor: 81,211; Striped Parking Area: 3,552 (Architectural Coating – sqft)

OffRoad Equipment

STACK Data Center Expansion Project - Santa Clara County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	291.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	93.00	36.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1518	0.0000	3.1518	0.4772	0.0000	0.4772			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**3.1518**	**1.6587**	**4.8105**	**0.4772**	**1.5419**	**2.0191**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.1228	4.2384	0.9015	0.0114	0.2543	0.0139	0.2681	0.0697	0.0133	0.0829		1,211.1665	1,211.1665	0.0574		1,212.6020
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
Worker	0.0555	0.0391	0.3823	1.1100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		111.0699	111.0699	2.7500e-003		111.1388
Total	**0.1783**	**4.2775**	**1.2838**	**0.0125**	**0.3775**	**0.0146**	**0.3921**	**0.1024**	**0.0140**	**0.1163**		**1,322.2365**	**1,322.2365**	**0.0602**		**1,323.7407**

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	lb/day										lb/day					
Fugitive Dust					3.1518	0.0000	3.1518	0.4772	0.0000	0.4772			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**3.1518**	**1.6587**	**4.8105**	**0.4772**	**1.5419**	**2.0191**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.1228	4.2384	0.9015	0.0114	0.2543	0.0139	0.2681	0.0697	0.0133	0.0829		1,211.1665	1,211.1665	0.0574		1,212.6020
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
Worker	0.0555	0.0391	0.3823	1.1100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		111.0699	111.0699	2.7500e-003		111.1388
Total	**0.1783**	**4.2775**	**1.2838**	**0.0125**	**0.3775**	**0.0146**	**0.3921**	**0.1024**	**0.0140**	**0.1163**		**1,322.2365**	**1,322.2365**	**0.0602**		**1,323.7407**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0666	0.0469	0.4587	1.3400e-003	0.1479	9.2000e-004	0.1488	0.0392	8.5000e-004	0.0401		133.2839	133.2839	3.3000e-003		133.3665
Total	**0.0666**	**0.0469**	**0.4587**	**1.3400e-003**	**0.1479**	**9.2000e-004**	**0.1488**	**0.0392**	**8.5000e-004**	**0.0401**		**133.2839**	**133.2839**	**3.3000e-003**		**133.3665**

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0666	0.0469	0.4587	1.3400e-003	0.1479	9.2000e-004	0.1488	0.0392	8.5000e-004	0.0401		133.2839	133.2839	3.3000e-003		133.3665
Total	**0.0666**	**0.0469**	**0.4587**	**1.3400e-003**	**0.1479**	**9.2000e-004**	**0.1488**	**0.0392**	**8.5000e-004**	**0.0401**		**133.2839**	**133.2839**	**3.3000e-003**		**133.3665**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.0555	0.0391	0.3823	1.1100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		111.0699	111.0699	2.7500e-003		111.1388
Total	**0.0555**	**0.0391**	**0.3823**	**1.1100e-003**	**0.1232**	**7.7000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**111.0699**	**111.0699**	**2.7500e-003**		**111.1388**

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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.0555	0.0391	0.3823	1.1100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		111.0699	111.0699	2.7500e-003		111.1388
Total	**0.0555**	**0.0391**	**0.3823**	**1.1100e-003**	**0.1232**	**7.7000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**111.0699**	**111.0699**	**2.7500e-003**		**111.1388**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.1472	4.0951	1.1682	9.6700e-003	0.2437	0.0205	0.2642	0.0702	0.0196	0.0898		1,022.0547	1,022.0547	0.0496		1,023.2934
Worker	0.3438	0.2425	2.3701	6.9100e-003	0.7640	4.7700e-003	0.7687	0.2026	4.3900e-003	0.2070		688.6335	688.6335	0.0171		689.0603
Total	**0.4910**	**4.3376**	**3.5382**	**0.0166**	**1.0077**	**0.0253**	**1.0330**	**0.2728**	**0.0240**	**0.2968**		**1,710.6883**	**1,710.6883**	**0.0666**		**1,712.3537**

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.1472	4.0951	1.1682	9.6700e-003	0.2437	0.0205	0.2642	0.0702	0.0196	0.0898		1,022.0547	1,022.0547	0.0496		1,023.2934
Worker	0.3438	0.2425	2.3701	6.9100e-003	0.7640	4.7700e-003	0.7687	0.2026	4.3900e-003	0.2070		688.6335	688.6335	0.0171		689.0603
Total	**0.4910**	**4.3376**	**3.5382**	**0.0166**	**1.0077**	**0.0253**	**1.0330**	**0.2728**	**0.0240**	**0.2968**		**1,710.6883**	**1,710.6883**	**0.0666**		**1,712.3537**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

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	lb/day										lb/day					
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
Vendor	0.1216	3.6924	1.0561	9.5800e-003	0.2437	8.3500e-003	0.2521	0.0702	7.9900e-003	0.0782		1,012.5737	1,012.5737	0.0467		1,013.7403
Worker	0.3191	0.2167	2.1636	6.6700e-003	0.7640	4.6400e-003	0.7686	0.2026	4.2700e-003	0.2069		664.7344	664.7344	0.0153		665.1159
Total	**0.4407**	**3.9090**	**3.2197**	**0.0163**	**1.0077**	**0.0130**	**1.0207**	**0.2728**	**0.0123**	**0.2851**		**1,677.3080**	**1,677.3080**	**0.0619**		**1,678.8562**

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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

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	lb/day										lb/day					
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
Vendor	0.1216	3.6924	1.0561	9.5800e-003	0.2437	8.3500e-003	0.2521	0.0702	7.9900e-003	0.0782		1,012.5737	1,012.5737	0.0467		1,013.7403
Worker	0.3191	0.2167	2.1636	6.6700e-003	0.7640	4.6400e-003	0.7686	0.2026	4.2700e-003	0.2069		664.7344	664.7344	0.0153		665.1159
Total	**0.4407**	**3.9090**	**3.2197**	**0.0163**	**1.0077**	**0.0130**	**1.0207**	**0.2728**	**0.0123**	**0.2851**		**1,677.3080**	**1,677.3080**	**0.0619**		**1,678.8562**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.6952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**8.9373**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.6 Architectural Coating - 2020

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	lb/day										lb/day					
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
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
Worker	0.0703	0.0495	0.4842	1.4100e-003	0.1561	9.7000e-004	0.1571	0.0414	9.0000e-004	0.0423		140.6886	140.6886	3.4900e-003		140.7758
Total	**0.0703**	**0.0495**	**0.4842**	**1.4100e-003**	**0.1561**	**9.7000e-004**	**0.1571**	**0.0414**	**9.0000e-004**	**0.0423**		**140.6886**	**140.6886**	**3.4900e-003**		**140.7758**

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	lb/day										lb/day					
Archit. Coating	8.6952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**8.9373**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.6 Architectural Coating - 2020

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	lb/day										lb/day					
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
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
Worker	0.0703	0.0495	0.4842	1.4100e-003	0.1561	9.7000e-004	0.1571	0.0414	9.0000e-004	0.0423		140.6886	140.6886	3.4900e-003		140.7758
Total	**0.0703**	**0.0495**	**0.4842**	**1.4100e-003**	**0.1561**	**9.7000e-004**	**0.1571**	**0.0414**	**9.0000e-004**	**0.0423**		**140.6886**	**140.6886**	**3.4900e-003**		**140.7758**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.6952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**8.9141**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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	lb/day										lb/day					
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
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
Worker	0.0652	0.0443	0.4420	1.3600e-003	0.1561	9.5000e-004	0.1570	0.0414	8.7000e-004	0.0423		135.8060	135.8060	3.1200e-003		135.8839
Total	**0.0652**	**0.0443**	**0.4420**	**1.3600e-003**	**0.1561**	**9.5000e-004**	**0.1570**	**0.0414**	**8.7000e-004**	**0.0423**		**135.8060**	**135.8060**	**3.1200e-003**		**135.8839**

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	lb/day										lb/day					
Archit. Coating	8.6952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**8.9141**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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	lb/day										lb/day					
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
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
Worker	0.0652	0.0443	0.4420	1.3600e-003	0.1561	9.5000e-004	0.1570	0.0414	8.7000e-004	0.0423		135.8060	135.8060	3.1200e-003		135.8839
Total	**0.0652**	**0.0443**	**0.4420**	**1.3600e-003**	**0.1561**	**9.5000e-004**	**0.1570**	**0.0414**	**8.7000e-004**	**0.0423**		**135.8060**	**135.8060**	**3.1200e-003**		**135.8839**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4298**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.7 Paving - 2021

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	lb/day										lb/day					
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
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
Worker	0.0515	0.0350	0.3490	1.0800e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		107.2152	107.2152	2.4600e-003		107.2768
Total	**0.0515**	**0.0350**	**0.3490**	**1.0800e-003**	**0.1232**	**7.5000e-004**	**0.1240**	**0.0327**	**6.9000e-004**	**0.0334**		**107.2152**	**107.2152**	**2.4600e-003**		**107.2768**

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	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4298**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.7 Paving - 2021

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	lb/day										lb/day					
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
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
Worker	0.0515	0.0350	0.3490	1.0800e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		107.2152	107.2152	2.4600e-003		107.2768
Total	**0.0515**	**0.0350**	**0.3490**	**1.0800e-003**	**0.1232**	**7.5000e-004**	**0.1240**	**0.0327**	**6.9000e-004**	**0.0334**		**107.2152**	**107.2152**	**2.4600e-003**		**107.2768**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2183	0.9983	2.8911	9.9700e-003	0.9771	8.4900e-003	0.9856	0.2608	7.9300e-003	0.2687		1,006.5889	1,006.5889	0.0335		1,007.4272
Unmitigated	0.2183	0.9983	2.8911	9.9700e-003	0.9771	8.4900e-003	0.9856	0.2608	7.9300e-003	0.2687		1,006.5889	1,006.5889	0.0335		1,007.4272

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	158.22	158.22	158.22	461,911	461,911
Parking Lot	0.00	0.00	0.00		
Total	158.22	158.22	158.22	461,911	461,911

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9713	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Unmitigated	3.9713	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4708					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4968					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6900e-003	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Total	**3.9713**	**3.6000e-004**	**0.0397**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0849**	**0.0849**	**2.2000e-004**		**0.0905**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4708					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4968					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6900e-003	3.6000e-004	0.0397	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0849	0.0849	2.2000e-004		0.0905
Total	**3.9713**	**3.6000e-004**	**0.0397**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0849**	**0.0849**	**2.2000e-004**		**0.0905**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	20	0	50	187.7	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (175 - 300 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

STACK Data Center Expansion Project

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	239.72	1000sqft	5.50	162,422.00	0
Parking Lot	148.00	Space	1.33	59,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SJCE intensity factors not available, so used PG&E intensity factors as highly conservative estimate.

Land Use - Per project plans revised 5.1.19, building footprint is 162,422

Construction Phase - Per applicant estimate 18 months construction period

Demolition - Estimated existing 1-story building square footage at 64,037 sf

Grading - Per applicant estimate balanced cut/ fill

Architectural Coating - Per Regulation 8 BAAQMD Architecutral Coatings for nonresidential flat coatings 100 g/L

Vehicle Trips - Hexagon Transportation Analysis - November 20, 2019

Energy Use - Energy calculated separately.

Water And Wastewater - Applicant provided estimated water demand (Average Annual Usage) 164,369,954 GPY

Stationary Sources - Emergency Generators and Fire Pumps - Per Cat C175-16 Diesel Generator Sets and estimate generators will be run a total of 16 hours per year for maintenance.

STACK Data Center Expansion Project - Santa Clara County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblConstructionPhase	NumDays	20.00	176.00
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	19.71	0.00
tblLandUse	LandUseSquareFeet	239,720.00	162,422.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	187.70
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	20.00
tblVehicleTrips	ST_TR	1.32	0.66
tblVehicleTrips	SU_TR	0.68	0.66
tblVehicleTrips	WD_TR	6.97	0.66
tblWater	IndoorWaterUseRate	55,435,250.00	164,369,954.00

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					
2020	0.6671	3.4572	2.7266	5.7600e-003	0.3588	0.1684	0.5271	0.1511	0.1577	0.3089	0.0000	512.0964	512.0964	0.0926	0.0000	514.4118
2021	0.5674	0.8853	0.8906	1.8400e-003	0.0400	0.0425	0.0824	0.0108	0.0401	0.0509	0.0000	162.9150	162.9150	0.0269	0.0000	163.5877
Maximum	**0.6671**	**3.4572**	**2.7266**	**5.7600e-003**	**0.3588**	**0.1684**	**0.5271**	**0.1511**	**0.1577**	**0.3089**	**0.0000**	**512.0964**	**512.0964**	**0.0926**	**0.0000**	**514.4118**

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					
2020	0.6671	3.4572	2.7266	5.7600e-003	0.3588	0.1684	0.5271	0.1511	0.1577	0.3089	0.0000	512.0960	512.0960	0.0926	0.0000	514.4114
2021	0.5674	0.8853	0.8906	1.8400e-003	0.0400	0.0425	0.0824	0.0108	0.0401	0.0509	0.0000	162.9149	162.9149	0.0269	0.0000	163.5876
Maximum	**0.6671**	**3.4572**	**2.7266**	**5.7600e-003**	**0.3588**	**0.1684**	**0.5271**	**0.1511**	**0.1577**	**0.3089**	**0.0000**	**512.0960**	**512.0960**	**0.0926**	**0.0000**	**514.4114**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	11-6-2019	2-5-2020	0.5429	0.5429
3	2-6-2020	5-5-2020	0.9683	0.9683
4	5-6-2020	8-5-2020	0.8548	0.8548
5	8-6-2020	11-5-2020	1.0059	1.0059
6	11-6-2020	2-5-2021	1.1776	1.1776
7	2-6-2021	5-5-2021	0.9277	0.9277
8	5-6-2021	8-5-2021	0.0979	0.0979
		Highest	1.1776	1.1776

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7244	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9300e-003	6.9300e-003	2.0000e-005	0.0000	7.3800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0400	0.1776	0.5091	1.8400e-003	0.1718	1.5400e-003	0.1733	0.0460	1.4400e-003	0.0474	0.0000	168.0519	168.0519	5.4400e-003	0.0000	168.1878
Stationary	0.1534	0.4289	0.3912	7.4000e-004		0.0226	0.0226		0.0226	0.0226	0.0000	71.2091	71.2091	9.9800e-003	0.0000	71.4587
Waste						0.0000	0.0000		0.0000	0.0000	60.3391	0.0000	60.3391	3.5659	0.0000	149.4875
Water						0.0000	0.0000		0.0000	0.0000	52.1470	258.7384	310.8854	5.3677	0.1289	483.4862
Total	**0.9178**	**0.6065**	**0.9039**	**2.5800e-003**	**0.1718**	**0.0241**	**0.1959**	**0.0460**	**0.0240**	**0.0700**	**112.4861**	**498.0063**	**610.4924**	**8.9491**	**0.1289**	**872.6275**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7244	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9300e-003	6.9300e-003	2.0000e-005	0.0000	7.3800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0400	0.1776	0.5091	1.8400e-003	0.1718	1.5400e-003	0.1733	0.0460	1.4400e-003	0.0474	0.0000	168.0519	168.0519	5.4400e-003	0.0000	168.1878
Stationary	0.1534	0.4289	0.3912	7.4000e-004		0.0226	0.0226		0.0226	0.0226	0.0000	71.2091	71.2091	9.9800e-003	0.0000	71.4587
Waste						0.0000	0.0000		0.0000	0.0000	60.3391	0.0000	60.3391	3.5659	0.0000	149.4875
Water						0.0000	0.0000		0.0000	0.0000	52.1470	258.7384	310.8854	5.3677	0.1289	483.4862
Total	**0.9178**	**0.6065**	**0.9039**	**2.5800e-003**	**0.1718**	**0.0241**	**0.1959**	**0.0460**	**0.0240**	**0.0700**	**112.4861**	**498.0063**	**610.4924**	**8.9491**	**0.1289**	**872.6275**

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

3.0 Construction Detail

Construction Phase

STACK Data Center Expansion Project - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/18/2020	5	10	
3	Grading	Grading	2/19/2020	3/24/2020	5	20	
4	Building Construction	Building Construction	3/25/2020	3/30/2021	5	230	
5	Architectural Coating	Architectural Coating	9/28/2020	5/31/2021	5	176	
6	Paving	Paving	3/31/2021	4/27/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 1.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 243,633; Non-Residential Outdoor: 81,211; Striped Parking Area: 3,552 (Architectural Coating – sqft)

OffRoad Equipment

STACK Data Center Expansion Project - Santa Clara County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	291.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	93.00	36.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0315	0.0000	0.0315	4.7700e-003	0.0000	4.7700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**0.0315**	**0.0166**	**0.0481**	**4.7700e-003**	**0.0154**	**0.0202**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.2 Demolition - 2020

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	1.2100e-003	0.0422	8.6500e-003	1.1000e-004	2.4700e-003	1.4000e-004	2.6000e-003	6.8000e-004	1.3000e-004	8.1000e-004	0.0000	11.0974	11.0974	5.1000e-004	0.0000	11.1101
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**1.7100e-003**	**0.0426**	**0.0124**	**1.2000e-004**	**3.6600e-003**	**1.5000e-004**	**3.8000e-003**	**1.0000e-003**	**1.4000e-004**	**1.1300e-003**	**0.0000**	**12.1176**	**12.1176**	**5.4000e-004**	**0.0000**	**12.1309**

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					0.0315	0.0000	0.0315	4.7700e-003	0.0000	4.7700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**0.0315**	**0.0166**	**0.0481**	**4.7700e-003**	**0.0154**	**0.0202**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.2 Demolition - 2020

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	1.2100e-003	0.0422	8.6500e-003	1.1000e-004	2.4700e-003	1.4000e-004	2.6000e-003	6.8000e-004	1.3000e-004	8.1000e-004	0.0000	11.0974	11.0974	5.1000e-004	0.0000	11.1101
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**1.7100e-003**	**0.0426**	**0.0124**	**1.2000e-004**	**3.6600e-003**	**1.5000e-004**	**3.8000e-003**	**1.0000e-003**	**1.4000e-004**	**1.1300e-003**	**0.0000**	**12.1176**	**12.1176**	**5.4000e-004**	**0.0000**	**12.1309**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1355	0.0000	0.1355	0.0745	0.0000	0.0745	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0306	0.3181	0.1614	2.9000e-004		0.0165	0.0165		0.0152	0.0152	0.0000	25.0730	25.0730	8.1100e-003	0.0000	25.2757
Total	**0.0306**	**0.3181**	**0.1614**	**2.9000e-004**	**0.1355**	**0.0165**	**0.1520**	**0.0745**	**0.0152**	**0.0896**	**0.0000**	**25.0730**	**25.0730**	**8.1100e-003**	**0.0000**	**25.2757**

3.3 Site Preparation - 2020

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	4.5000e-004	3.2000e-004	3.3800e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.9182	0.9182	2.0000e-005	0.0000	0.9188
Total	**4.5000e-004**	**3.2000e-004**	**3.3800e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9182**	**0.9182**	**2.0000e-005**	**0.0000**	**0.9188**

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					0.1355	0.0000	0.1355	0.0745	0.0000	0.0745	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0306	0.3181	0.1614	2.9000e-004		0.0165	0.0165		0.0152	0.0152	0.0000	25.0730	25.0730	8.1100e-003	0.0000	25.2757
Total	**0.0306**	**0.3181**	**0.1614**	**2.9000e-004**	**0.1355**	**0.0165**	**0.1520**	**0.0745**	**0.0152**	**0.0896**	**0.0000**	**25.0730**	**25.0730**	**8.1100e-003**	**0.0000**	**25.2757**

3.3 Site Preparation - 2020

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	4.5000e-004	3.2000e-004	3.3800e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.9182	0.9182	2.0000e-005	0.0000	0.9188
Total	**4.5000e-004**	**3.2000e-004**	**3.3800e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9182**	**0.9182**	**2.0000e-005**	**0.0000**	**0.9188**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0819	0.0000	0.0819	0.0421	0.0000	0.0421	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0304	0.3298	0.2007	3.7000e-004		0.0159	0.0159		0.0146	0.0146	0.0000	32.5734	32.5734	0.0105	0.0000	32.8368
Total	**0.0304**	**0.3298**	**0.2007**	**3.7000e-004**	**0.0819**	**0.0159**	**0.0978**	**0.0421**	**0.0146**	**0.0567**	**0.0000**	**32.5734**	**32.5734**	**0.0105**	**0.0000**	**32.8368**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.5000e-004	4.6900e-003	1.0000e-005	1.4900e-003	1.0000e-005	1.5000e-003	4.0000e-004	1.0000e-005	4.0000e-004	0.0000	1.2753	1.2753	3.0000e-005	0.0000	1.2761
Total	**6.2000e-004**	**4.5000e-004**	**4.6900e-003**	**1.0000e-005**	**1.4900e-003**	**1.0000e-005**	**1.5000e-003**	**4.0000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.2753**	**1.2753**	**3.0000e-005**	**0.0000**	**1.2761**

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					0.0819	0.0000	0.0819	0.0421	0.0000	0.0421	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0304	0.3298	0.2007	3.7000e-004		0.0159	0.0159		0.0146	0.0146	0.0000	32.5734	32.5734	0.0105	0.0000	32.8368
Total	**0.0304**	**0.3298**	**0.2007**	**3.7000e-004**	**0.0819**	**0.0159**	**0.0978**	**0.0421**	**0.0146**	**0.0567**	**0.0000**	**32.5734**	**32.5734**	**0.0105**	**0.0000**	**32.8368**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.5000e-004	4.6900e-003	1.0000e-005	1.4900e-003	1.0000e-005	1.5000e-003	4.0000e-004	1.0000e-005	4.0000e-004	0.0000	1.2753	1.2753	3.0000e-005	0.0000	1.2761
Total	**6.2000e-004**	**4.5000e-004**	**4.6900e-003**	**1.0000e-005**	**1.4900e-003**	**1.0000e-005**	**1.5000e-003**	**4.0000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.2753**	**1.2753**	**3.0000e-005**	**0.0000**	**1.2761**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2141	1.9378	1.7017	2.7200e-003		0.1128	0.1128		0.1061	0.1061	0.0000	233.9261	233.9261	0.0571	0.0000	235.3528
Total	**0.2141**	**1.9378**	**1.7017**	**2.7200e-003**		**0.1128**	**0.1128**		**0.1061**	**0.1061**	**0.0000**	**233.9261**	**233.9261**	**0.0571**	**0.0000**	**235.3528**

3.5 Building Construction - 2020

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	0.0144	0.4140	0.1103	9.9000e-004	0.0239	2.0500e-003	0.0260	6.9200e-003	1.9600e-003	8.8800e-003	0.0000	95.0606	95.0606	4.3600e-003	0.0000	95.1696
Worker	0.0312	0.0224	0.2351	7.1000e-004	0.0745	4.8000e-004	0.0750	0.0198	4.4000e-004	0.0203	0.0000	63.8864	63.8864	1.5700e-003	0.0000	63.9256
Total	**0.0456**	**0.4364**	**0.3453**	**1.7000e-003**	**0.0984**	**2.5300e-003**	**0.1010**	**0.0267**	**2.4000e-003**	**0.0291**	**0.0000**	**158.9470**	**158.9470**	**5.9300e-003**	**0.0000**	**159.0952**

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	0.2141	1.9378	1.7017	2.7200e-003		0.1128	0.1128		0.1061	0.1061	0.0000	233.9258	233.9258	0.0571	0.0000	235.3526
Total	**0.2141**	**1.9378**	**1.7017**	**2.7200e-003**		**0.1128**	**0.1128**		**0.1061**	**0.1061**	**0.0000**	**233.9258**	**233.9258**	**0.0571**	**0.0000**	**235.3526**

3.5 Building Construction - 2020

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	0.0144	0.4140	0.1103	9.9000e-004	0.0239	2.0500e-003	0.0260	6.9200e-003	1.9600e-003	8.8800e-003	0.0000	95.0606	95.0606	4.3600e-003	0.0000	95.1696
Worker	0.0312	0.0224	0.2351	7.1000e-004	0.0745	4.8000e-004	0.0750	0.0198	4.4000e-004	0.0203	0.0000	63.8864	63.8864	1.5700e-003	0.0000	63.9256
Total	**0.0456**	**0.4364**	**0.3453**	**1.7000e-003**	**0.0984**	**2.5300e-003**	**0.1010**	**0.0267**	**2.4000e-003**	**0.0291**	**0.0000**	**158.9470**	**158.9470**	**5.9300e-003**	**0.0000**	**159.0952**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0599	0.5491	0.5221	8.5000e-004		0.0302	0.0302		0.0284	0.0284	0.0000	72.9657	72.9657	0.0176	0.0000	73.4058
Total	**0.0599**	**0.5491**	**0.5221**	**8.5000e-004**		**0.0302**	**0.0302**		**0.0284**	**0.0284**	**0.0000**	**72.9657**	**72.9657**	**0.0176**	**0.0000**	**73.4058**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-003	0.1165	0.0310	3.1000e-004	7.4600e-003	2.6000e-004	7.7200e-003	2.1600e-003	2.5000e-004	2.4000e-003	0.0000	29.3739	29.3739	1.2800e-003	0.0000	29.4059
Worker	9.0200e-003	6.2500e-003	0.0670	2.1000e-004	0.0232	1.5000e-004	0.0234	6.1800e-003	1.3000e-004	6.3100e-003	0.0000	19.2334	19.2334	4.4000e-004	0.0000	19.2443
Total	**0.0127**	**0.1228**	**0.0980**	**5.2000e-004**	**0.0307**	**4.1000e-004**	**0.0311**	**8.3400e-003**	**3.8000e-004**	**8.7100e-003**	**0.0000**	**48.6073**	**48.6073**	**1.7200e-003**	**0.0000**	**48.6503**

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	0.0599	0.5491	0.5221	8.5000e-004		0.0302	0.0302		0.0284	0.0284	0.0000	72.9657	72.9657	0.0176	0.0000	73.4057
Total	**0.0599**	**0.5491**	**0.5221**	**8.5000e-004**		**0.0302**	**0.0302**		**0.0284**	**0.0284**	**0.0000**	**72.9657**	**72.9657**	**0.0176**	**0.0000**	**73.4057**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-003	0.1165	0.0310	3.1000e-004	7.4600e-003	2.6000e-004	7.7200e-003	2.1600e-003	2.5000e-004	2.4000e-003	0.0000	29.3739	29.3739	1.2800e-003	0.0000	29.4059
Worker	9.0200e-003	6.2500e-003	0.0670	2.1000e-004	0.0232	1.5000e-004	0.0234	6.1800e-003	1.3000e-004	6.3100e-003	0.0000	19.2334	19.2334	4.4000e-004	0.0000	19.2443
Total	**0.0127**	**0.1228**	**0.0980**	**5.2000e-004**	**0.0307**	**4.1000e-004**	**0.0311**	**8.3400e-003**	**3.8000e-004**	**8.7100e-003**	**0.0000**	**48.6073**	**48.6073**	**1.7200e-003**	**0.0000**	**48.6503**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3600e-003	0.0581	0.0632	1.0000e-004		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	8.8087	8.8087	6.8000e-004	0.0000	8.8258
Total	**0.3083**	**0.0581**	**0.0632**	**1.0000e-004**		**3.8300e-003**	**3.8300e-003**		**3.8300e-003**	**3.8300e-003**	**0.0000**	**8.8087**	**8.8087**	**6.8000e-004**	**0.0000**	**8.8258**

3.6 Architectural Coating - 2020

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	2.1800e-003	1.5600e-003	0.0164	5.0000e-005	5.2000e-003	3.0000e-005	5.2300e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.4584	4.4584	1.1000e-004	0.0000	4.4611
Total	**2.1800e-003**	**1.5600e-003**	**0.0164**	**5.0000e-005**	**5.2000e-003**	**3.0000e-005**	**5.2300e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.4584**	**4.4584**	**1.1000e-004**	**0.0000**	**4.4611**

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	0.3000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3600e-003	0.0581	0.0632	1.0000e-004		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	8.8087	8.8087	6.8000e-004	0.0000	8.8258
Total	**0.3083**	**0.0581**	**0.0632**	**1.0000e-004**		**3.8300e-003**	**3.8300e-003**		**3.8300e-003**	**3.8300e-003**	**0.0000**	**8.8087**	**8.8087**	**6.8000e-004**	**0.0000**	**8.8258**

3.6 Architectural Coating - 2020

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	2.1800e-003	1.5600e-003	0.0164	5.0000e-005	5.2000e-003	3.0000e-005	5.2300e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.4584	4.4584	1.1000e-004	0.0000	4.4611
Total	**2.1800e-003**	**1.5600e-003**	**0.0164**	**5.0000e-005**	**5.2000e-003**	**3.0000e-005**	**5.2300e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.4584**	**4.4584**	**1.1000e-004**	**0.0000**	**4.4611**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4652					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.0817	0.0972	1.6000e-004		5.0300e-003	5.0300e-003		5.0300e-003	5.0300e-003	0.0000	13.6599	13.6599	9.4000e-004	0.0000	13.6833
Total	**0.4769**	**0.0817**	**0.0972**	**1.6000e-004**		**5.0300e-003**	**5.0300e-003**		**5.0300e-003**	**5.0300e-003**	**0.0000**	**13.6599**	**13.6599**	**9.4000e-004**	**0.0000**	**13.6833**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1300e-003	2.1700e-003	0.0233	7.0000e-005	8.0600e-003	5.0000e-005	8.1100e-003	2.1400e-003	5.0000e-005	2.1900e-003	0.0000	6.6738	6.6738	1.5000e-004	0.0000	6.6775
Total	**3.1300e-003**	**2.1700e-003**	**0.0233**	**7.0000e-005**	**8.0600e-003**	**5.0000e-005**	**8.1100e-003**	**2.1400e-003**	**5.0000e-005**	**2.1900e-003**	**0.0000**	**6.6738**	**6.6738**	**1.5000e-004**	**0.0000**	**6.6775**

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	0.4652					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.0817	0.0972	1.6000e-004		5.0300e-003	5.0300e-003		5.0300e-003	5.0300e-003	0.0000	13.6599	13.6599	9.4000e-004	0.0000	13.6833
Total	**0.4769**	**0.0817**	**0.0972**	**1.6000e-004**		**5.0300e-003**	**5.0300e-003**		**5.0300e-003**	**5.0300e-003**	**0.0000**	**13.6599**	**13.6599**	**9.4000e-004**	**0.0000**	**13.6833**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1300e-003	2.1700e-003	0.0233	7.0000e-005	8.0600e-003	5.0000e-005	8.1100e-003	2.1400e-003	5.0000e-005	2.1900e-003	0.0000	6.6738	6.6738	1.5000e-004	0.0000	6.6775
Total	**3.1300e-003**	**2.1700e-003**	**0.0233**	**7.0000e-005**	**8.0600e-003**	**5.0000e-005**	**8.1100e-003**	**2.1400e-003**	**5.0000e-005**	**2.1900e-003**	**0.0000**	**6.6738**	**6.6738**	**1.5000e-004**	**0.0000**	**6.6775**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	1.7400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0143**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.7 Paving - 2021

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	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**4.6000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9848**	**0.9848**	**2.0000e-005**	**0.0000**	**0.9854**

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	1.7400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0143**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.7 Paving - 2021

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	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**4.6000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9848**	**0.9848**	**2.0000e-005**	**0.0000**	**0.9854**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0400	0.1776	0.5091	1.8400e-003	0.1718	1.5400e-003	0.1733	0.0460	1.4400e-003	0.0474	0.0000	168.0519	168.0519	5.4400e-003	0.0000	168.1878
Unmitigated	0.0400	0.1776	0.5091	1.8400e-003	0.1718	1.5400e-003	0.1733	0.0460	1.4400e-003	0.0474	0.0000	168.0519	168.0519	5.4400e-003	0.0000	168.1878

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	158.22	158.22	158.22	461,911	461,911
Parking Lot	0.00	0.00	0.00		
Total	158.22	158.22	158.22	461,911	461,911

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7244	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9300e-003	6.9300e-003	2.0000e-005	0.0000	7.3800e-003
Unmitigated	0.7244	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9300e-003	6.9300e-003	2.0000e-005	0.0000	7.3800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0859					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6382					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.3000e-004	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9300e-003	6.9300e-003	2.0000e-005	0.0000	7.3800e-003
Total	**0.7244**	**3.0000e-005**	**3.5700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.9300e-003**	**6.9300e-003**	**2.0000e-005**	**0.0000**	**7.3800e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0859					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6382					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.3000e-004	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9300e-003	6.9300e-003	2.0000e-005	0.0000	7.3800e-003
Total	**0.7244**	**3.0000e-005**	**3.5700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.9300e-003**	**6.9300e-003**	**2.0000e-005**	**0.0000**	**7.3800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	310.8854	5.3677	0.1289	483.4862
Unmitigated	310.8854	5.3677	0.1289	483.4862

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	164.37 / 0	310.8854	5.3677	0.1289	483.4862
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**310.8854**	**5.3677**	**0.1289**	**483.4862**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	164.37 / 0	310.8854	5.3677	0.1289	483.4862
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**310.8854**	**5.3677**	**0.1289**	**483.4862**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	60.3391	3.5659	0.0000	149.4875
Unmitigated	60.3391	3.5659	0.0000	149.4875

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	297.25	60.3391	3.5659	0.0000	149.4875
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**60.3391**	**3.5659**	**0.0000**	**149.4875**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	297.25	60.3391	3.5659	0.0000	149.4875
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**60.3391**	**3.5659**	**0.0000**	**149.4875**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	20	0	50	187.7	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (175 - 300 HP)	0.1534	0.4289	0.3912	7.4000e-004		0.0226	0.0226		0.0226	0.0226	0.0000	71.2091	71.2091	9.9800e-003	0.0000	71.4587
Total	**0.1534**	**0.4289**	**0.3912**	**7.4000e-004**		**0.0226**	**0.0226**		**0.0226**	**0.0226**	**0.0000**	**71.2091**	**71.2091**	**9.9800e-003**	**0.0000**	**71.4587**

11.0 Vegetation

Water Usage Estimate

Estimated Daily Water Demand (Average Daily Usage)				
Condition	**Cooling Tower Total (GPD)**	**Humidifiers (GPD)**	**Occupant Usage (GPD)**	**Total Demand (GPD)**
Stack Infrastructure San Jose SVY02	445,824	945	3,560	450,329

Estimated Daily Water Demand (Average Annual Usage)				
Condition	**Cooling Tower Total (GPY)**	**Humidifiers (GPY)**	**Occupant Usage (GPY)**	**Total Demand (GPY)**
Stack Infrastructure San Jose SVY02	162,725,760	344,794	1,299,400	164,369,954

Estimated Water Demand (Peak Usage)				
Condition	**Cooling Tower Total (GPM)**	**Humidifiers (GPM)**	**Occupant Usage (GPM)**	**Total Demand (GPM)**
Stack Infrastructure San Jose SVY02	393.6	0.7	2.5	396.7

Energy Calculations

STACK Data Center

Last Updated: January 17, 2020

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Concrete/Industrial Saws	1	8	81	0.73	Demo	555.96
Excavators	3	8	158	0.38	Demo	1,523.35
Rubber Tired Dozer	2	8	247	0.40	Demo	1,671.19
Rubber Tired Dozer	3	8	247	0.40	Site Prep	1,253.39
Tractors/Loaders/Backhoes	4	8	97	0.37	Site Prep	674.90
Excavators	1	8	158	0.38	Grading	507.78
Graders	1	8	187	0.41	Grading	648.43
Rubber Tired Dozer	1	8	247	0.40	Grading	835.59
Scrapers	0	8	367	0.48	Grading	-
Tractors/Loaders/Backhoes	3	8	97	0.37	Grading	1,012.34
Cranes	1	7	231	0.29	Building	5,701.05
Forklifts	3	8	89	0.20	Building	5,773.94
Generator Sets	1	8	84	0.74	Building	6,721.12
Tractors/Loaders/Backhoes	3	7	97	0.37	Building	10,186.70
Welders	1	8	46	0.45	Building	2,238.21
Air Compressors	1	6	78	0.48	Arch Coating	2,323.34
Pavers	2	8	130	0.42	Paving	923.55
Paving Equipment	2	8	132	0.36	Paving	803.80
Rollers	2	8	80	0.38	Paving	571.66
					Total Fuel Used	**43,926.31 (Gallons)**

Construction Phase	Days of Operation
Demolition Phase	20
Site Preparation Phase	10
Grading Phase	20
Building Construction Phase	230
Paving Phase	20
Architectural Coating Phase	176
Total Days	476

WORKER TRIPS				
Construction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.0	15	10.8	135.00
Site Prep Phase	24.0	18	10.8	81.00
Grading Phase	24.0	15	10.8	135.00
Building Phase	24.0	93	10.8	9625.50
Paving Phase	24.0	15	10.8	135.00
Architectural Coating Phase	24.0	19	10.8	1504.80
			Total	**11,616.30**

HAULING AND VENDOR TRIPS				
Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.4	291	20.0	786.49
Site Prep Phase	7.4	0	20.0	0.00
Grading Phase	7.4	0	20.0	0.00
Building Phase	7.4	0	20.0	0.00
Paving Phase	7.4	0	20.0	0.00
Architectural Coating Phase	7.4	0	20.0	0.00
			Total	**786.49**
VENDOR TRIPS				
Demolition	7.4	0	7.3	0.00
Site Prep Phase	7.4	0	7.3	0.00
Grading Phase	7.4	0	7.3	0.00
Building Phase	7.4	36	7.3	8168.11
Paving Phase	7.4	0	7.3	0.00
Architectural Coating Phase	7.4	0	7.3	0.00
			Total	**8,168.11**

Total Gasoline Consumption (gallons)	**11,616.30**
Total Diesel Consumption (gallons)	**52,880.91**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018* . Available at: https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf.

STACK Data Center

Last Updated: July 26, 2019

Populate one of the following tables (Leave the other blank):

Annual VMT		OR	Daily Vehicle Trips	
Annual VMT:	461,911		Daily Vehicle Trips:	
			Average Trip Distance:	

Fleet Class	Fleet Mix
Light Duty Auto (LDA)	0.610498
Light Duty Truck 1 (LDT1)	0.036775
Light Duty Truck 2 (LDT2)	0.183084
Medium Duty Vehicle (MDV)	0.106123
Light Heavy Duty 1 (LHD1)	0.014413
Light Heavy Duty 2 (LHD2)	0.005007
Medium Heavy Duty (MHD)	0.012610
Heavy Heavy Duty (HHD)	0.021118
Other Bus (OBUS)	0.002144
Urban Bus (UBUS)	0.001548
School Bus (SBUS)	0.000627
Motorhome (MH)	0.000740
Motorcycle (MCY)	0.005312

Fuel Economy (MPG)	
Passenger Vehicles	24.0
Light-Med Duty Trucks	17.4
Heavy Trucks/Other	7.4
Motorcycles	43.9

Fleet Mix

Vehicle Type	Percent	Fuel Type	Annual VMT: VMT	Vehicle Trips: VMT	Fuel Consumption (Gallons)	
Passenger Vehicles	*61.05%*	*Gasoline*	281,996	0.00	11,750	-
Light-Medium Duty Trucks	*32.60%*	*Gasoline*	150,575	0.00	8,654	-
Heavy Trucks/Other	*5.82%*	*Diesel*	26,886	0.00	3,633	-
Motorcycle	*0.53%*	*Gasoline*	2,454	0.00	56	-
						-

Total Gasoline Consumption (gallons)	**20459.43**
Total Diesel Consumption (gallons)	**3633.30**

GHG Electricity Calculations

STACK Data Center

Total Electricity Usage (MWH)
356,532.00

GHG Emission Calculations

	PG&E		CO2E Conversion Calculations	
	Energy Intensity Factor (lbs/MWh)	Emissions (lbs)	Total CO2E Emissions (lbs)	Total CO2E Emissions (MT)
CO2	218.73	77,984,244.36	77,984,244.36	35,373.03
CH4	0.01	3,565.32	89,133.00	40.43
N2O	0.002	713.06	212,493.07	96.39
			TOTAL GHG EMISSIONS FROM ELECTRICITY	**35509.84**

Notes

- Total Electricity Usage sourced from CalEEMod, Table 5.3
- Energy Intensity Factors for PG&E based on CalEEMod defaults and linear interpolation of RPS targets for 2030 and 2045.
- CH4 conversion assumes 1 lb CH4 is equivalent to 25 lbs CO2E (per U.S. EPA Greenhouse Gas Equivalencies Calculator)
- N2O conversion assumes 1 lb N2O is equivalent to 298 lbs CO2E (per U.S. EPA Greenhouse Gas Equivalencies Calculator)

Diesel Generator Emissions

Stationary Source Criteria Pollutants (50 hours of operation)

Emergency Generator (C175-16) - 3000kw Standby

Gross engine output bhp @ 100% load	4,423
Annual use per generator (Hours)	50
Number of Units	20
Total Annual Hours	1,000

	HC	NO_X	CO	PM	$PM_{2.5}$
Emissions (full standby) (g-hp/hr)	0.36	3.97	1.12	0.08	0.08
Emissions (full standby) (g/sec)	0.44	4.88	1.38	0.10	0.10
Emissions (full standby) (lbs/hr)	3.51	38.71	10.92	0.78	0.76
Emissions (full standby) (lbs/hr)	3.51	38.71	10.92	0.12	0.11
Uncontrolled Emissions Total lbs/year	175.52	1935.59	546.06	39.00	38.07
DPF Controlled Emissions Total lbs/year	175.52	1935.59	546.06	5.85	5.71
	Individual Generator				
DPF Controlled Emissions Total tons/year	0.09	0.97	0.27	0.00	0.00
Daily Avg (lbs/day)	0.47	5.16	1.46	0.02	0.02
	All Generators				
DPF Controlled Emissions Total tons/year	1.76	19.36	5.46	0.06	0.06
Daily Avg (lbs/day)	9.62	106.06	29.92	0.32	0.31

Notes:

1. Hours of use correspond to the hours evaluated in the operation HRA performed by ProActive
2. Exhaust emissions were obtained from the Cat C175-16 manufacturer specifications for the certification test levels (EPA D2 Cycle Certification)
3. $PM_{2.5}$ estimated as 97.6% of PM from diesel combustion, based on SCAQMD Final Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Signficance Thresholds (October 2006)

Conversions

1lb=453.59g

2000lbs = 1 ton

Stationary Source Criteria Pollutants after Implementation of Mitigation Measure AQ-1

Emergency Generator (C175-16) - 3000kw Standby

Gross engine output bhp @ 100% load	4,423
Annual use per generator (Hours)	24
Number of Units	20
Total Annual Hours	480

	HC	NO_X	CO	PM	$PM_{2.5}$
Emissions (full standby) (g-hp/hr)	0.36	3.97	1.12	0.08	0.08
Emissions (full standby) (g/sec)	0.44	4.88	1.38	0.10	0.10
Emissions (full standby) (lbs/hr)	3.51	38.71	10.92	0.78	0.76
Emissions (full standby) (lbs/hr)	3.51	38.71	10.92	0.12	0.11
Uncontrolled Emissions Total lbs/year	70.21	774.24	218.42	15.60	15.23
DPF Controlled Emissions Total lbs/year	70.21	774.24	218.42	2.34	2.28
Individual Generator					
DPF Controlled Emissions Total tons/year	0.04	0.39	0.11	0.00	0.00
Daily Avg (lbs/day)	0.19	2.06	0.58	0.01	0.01
All Generators					
DPF Controlled Emissions Total tons/year	0.84	9.29	2.62	0.03	0.03
Daily Avg (lbs/day)	4.62	50.91	14.36	0.15	0.15

Notes:

1. Exhaust emissions were obtained from the Cat C175-16 manufacturer specifications for the certification test levels (EPA D2 Cycle Certification)

2.$PM_{2.5}$ estimated as 97.6% of PM from diesel combustion, based on SCAQMD Final Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Signficance

Conversions

1lb=453.59g

2000lbs = 1 ton

GHG Emissions for #2 Distillate Diesel Fuel Consumption by

		50 Hrs Operation of one Engine		*50 Hrs Operation of all Engines*	
Operation	Fuel Consumption (gals/hr)	Fuel Consumption (gallons)	MT CO_2e	Fuel Consumption (gallons)	MT CO_2e
100% load	214.2	10710	474.453	214200	9489.06
75% load	165.3	8265	366.1395	165300	7322.79
50% load	130.4	6520	288.836	130400	5776.72
25% load	80.6	4030	178.529	80600	3570.58

Source: Cat C175-16 Diesel Generator Sets manufacturer specifications

#2 Distillate Diesel Emission factors

kg CO2 per gallon	10.21
kg CH4 per gallon	0.41
kg N2O per gallon	0.08

Source:Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017 (see link below). Table C-1, Table C-2, Table AA-1.
Note: 1 kg = 0.001 Metric Tons (MT)

CO_2 Equivalencies

CO_2	1
CH_4	25
N_2O	298

Source: Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment

Diesel Generator Set Information

Cat® C175-16
Diesel Generator Sets

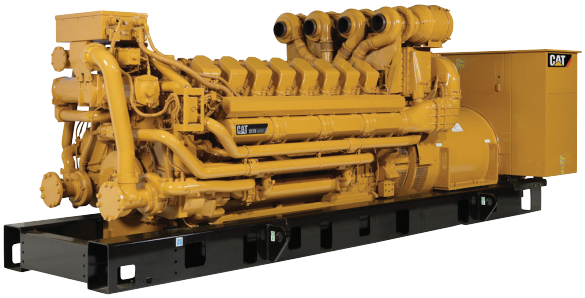

Image shown may not reflect actual configuration

Bore – mm (in)	175 (6.89)
Stroke – mm (in)	220 (8.66)
Displacement – L (in^3)	84.7 (5166.88)
Compression Ratio	16.7:1
Aspiration	TA
Fuel System	Common Rail
Governor Type	ADEM™ A4

Standby 60 Hz ekW (kVA)
3000 (3750)

Emissions Performance
U.S. EPA Stationary Emergency Use Only. (Tier 2)

Standard Features

Cat® Diesel Engine
- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- Reliable performance proven in thousands of applications worldwide

Generator Set Package
- Accepts 100% block load in one step and meets other NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators
- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System
- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

EMCP 4 Control Panels
- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

Warranty
- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing
- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

Optional Equipment

Engine

Air Cleaner

- ❑ Single element
- ■ Dual element

Starting

- ❑ Standard batteries
- ■ Oversized batteries
- ❑ Standard electric starter(s)
- ■ Dual electric starter(s)
- ❑ Air starter(s)
- ■ Jacket water heater

Alternator

Output voltage

- ■ 480V
- ❑ 600V
- ❑ 4160V
- ❑ 6300V
- ❑ 6600V
- ❑ 6900V
- ❑ 12470V
- ❑ 13200V
- ❑ 13800V

Temperature Rise (over 40°C ambient)

- ❑ 150°C
- ■ 125°C/130°C
- ❑ 105°C
- ❑ 80°C

Winding type

- ■ Form wound

Excitation

- ■ Permanent magnet (PM)

Attachments

- ■ Anti-condensation heater
- ■ Stator and bearing temperature monitoring and protection

Power Termination

Type

- ■ Bus bar
- ❑ Circuit breaker
- ❑ 4000A
- ■ 5000A
- ■ UL
- ❑ IEC
- ■ 3-pole
- ■ Electrically operated

Trip Unit

- ❑ LSI
- ■ LSI-G
- ❑ LSIG-P

Control System

Controller

- ■ EMCP 4.2
- ❑ EMCP 4.3
- ❑ EMCP 4.4

Attachments

- ■ Local annunciator module
- ■ Remote annunciator module
- ■ Expansion I/O module

Vibration Isolators

- ❑ Rubber
- ❑ Spring
- ■ Seismic rated

Certifications

- ■ UL2200
- ❑ CSA
- ❑ IBC seismic certification
- ❑ OSHPD pre-approval

Note: *Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.*

Package Performance

Performance	Standby	
Frequency	60 Hz	
Gen set power rating with fan	3000 eKW	
Gen set power rating with fan @ 0.8 power factor	3750 kVA	
Emissions	EPA ESE (Tier 2)	
Performance number	DM8448-10	
Fuel Consumption		
100% load with fan – L/hr (gal/hr)	810.7	(214.2)
75% load with fan – L/hr (gal/hr)	625.8	(165.3)
50% load with fan – L/hr (gal/hr)	493.6	(130.4)
25% load with fan – L/hr (gal/hr)	305.0	(80.6)
Cooling System		
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)
Radiator air flow – m^3/min (cfm)	2933	(103578)
Engine coolant capacity – L (gal)	303.5	(80.2)
Radiator coolant capacity – L (gal)	632	(166)
Total coolant capacity – L (gal)	935.5	(246.2)
Inlet Air		
Combustion air inlet flow rate – m^3/min (cfm)	276.7	(9772.2)
Exhaust System		
Exhaust stack gas temperature – °C (°F)	477.7	(891.9)
Exhaust gas flow rate – m^3/min (cfm)	725.6	(25620.0)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)
Heat Rejection		
Heat rejection to jacket water – kW (Btu/min)	1379	(78436)
Heat rejection to exhaust (total) – kW (Btu/min)	3149	(179063)
Heat rejection to aftercooler – kW (Btu/min)	496	(28224)
Heat rejection to atmosphere from engine – kW (Btu/min)	147	(8336)
Heat rejection from alternator – kW (Btu/min)	112	(6369)
Emissions (Nominal)		
NOx mg/Nm^3 (g/hp-h)	3113.9	(6.07)
CO mg/Nm^3 (g/hp-h)	325.6	(0.73)
HC mg/Nm^3 (g/hp-h)	40.7	(0.11)
PM mg/Nm^3 (g/hp-h)	13.0	(0.03)
Emissions (Potential Site Variation)		
NOx mg/Nm^3 (g/hp-h)	3736.7	(7.28)
CO mg/Nm^3 (g/hp-h)	586.2	(1.31)
HC mg/Nm^3 (g/hp-h)	54.2	(0.15)
PM mg/Nm^3 (g/hp-h)	18.2	(0.05)

C175-16 Diesel Generator Sets
Electric Power

Ratings Definitions

Standby
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical power rating. Typical peak demand up to 100% of rated power for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime
Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Continuous
Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of the operating hours.

Applicable Codes and Standards
AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Fuel Rates
Fuel rates are based on fuel oil of 35º API [16°C (60ºF)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 29ºC (85ºF) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.)

C175-16EL
LEHE1224-01 (11/18)

MANUFACTURER'S EMISSIONS DATA

CERTIFICATION YEAR: 2019 CERT AGENCY: EPA
EPA ENGINE FAMILY NAME: KCPXL106.NZS

MODEL: C175-16
GENSET RATING (W/ FAN): 3000.0 EKW STANDBY 60 HERTZ @ 1800 RPM
ENGINE DISCPLACEMENT: 5167 CU IN
EMISSIONS POWER CATEGORY: >560 BKW
ENGINE TYPE: 4 Stroke Compression Ignition (Diesel)

GENERAL PERFORMANCE DATA

GEN W/F	ENG PWR	FUEL RATE	FUEL RATE	EXHAUST STACK TEMP	EXHAUST GAS FLOW
EKW	BHP	LB/BHP-HR	GPH	°F	CFM
3000.0	4423	0.339	214.2	891.9	25620

DATA REF NO.: DM8448-10

EPA D2 CYCLE CERTIFICATION

	UNITS	CO	HC	NOX	NOX + HC	PM
CERTIFICATION TEST LEVELS	GM/BHP-HR	1.12	0.36	3.97	4.33	0.08
	GM/BKW-HR	1.5	0.48	5.32	5.8	0.11
EPA Tier 2 Max limits*	GM/BHP-HR	2.6	-	-	4.7	0.15
	GM/BKW-HR	3.5	-	-	6.4	0.2

DATA REF: https:// www.epa.gov/compliance-and-fuel-economy-data/annual-certification-data-vehicles-engines-and-equipment
REF DATE: 2/2019

Gaseous emissions data measurements are consistent with those described in EPA 40 CFR PART 89 SUBPART D and ISO 8178 for measuring HC, CO, PM, and NOx.

***Gaseous emissions values are WEIGHTED CYCLE AVERAGES and are in compliance with the EPA non-road regulations.**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2019 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Caterpillar Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: KCPXL106.NZS-013

Effective Date: 07/24/2018

Expiration Date: 12/31/2019

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 07/24/2018

Revision Date: N/A

Model Year: 2019
Manufacturer Type: Original Engine Manufacturer
Engine Family: KCPXL106.NZS

Mobile/Stationary Indicator: Stationary
Emissions Power Category: kW>560
Fuel Type: Diesel
After Treatment Devices: No After Treatment Devices Installed
Non-after Treatment Devices: Electronic Control, Engine Design Modification

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

Perf No: DM8448 **Change Level:** 10

General Heat Rejection Sound Emissions Regulatory Altitude Derate Cross Reference Perf Param Ref

SALES MODEL:	C175-16	**COMBUSTION:**	DI
BRAND:	CAT	**ENGINE SPEED (RPM):**	1,800
ENGINE POWER (BHP):	4,423	**HERTZ:**	60
GEN POWER WITH FAN (EKW):	3,000.0	**FAN POWER (HP):**	187.7
COMPRESSION RATIO:	15.3	**ASPIRATION:**	TA
RATING LEVEL:	STANDBY	**AFTERCOOLER TYPE:**	SCAC
PUMP QUANTITY:	2	**AFTERCOOLER CIRCUIT TYPE:**	JW+OC+1AC, 2AC
FUEL TYPE:	DIESEL	**AFTERCOOLER TEMP (F):**	115
MANIFOLD TYPE:	DRY	**JACKET WATER TEMP (F):**	210.2
GOVERNOR TYPE:	ADEM4	**TURBO CONFIGURATION:**	PARALLEL
ELECTRONICS TYPE:	ADEM4	**TURBO QUANTITY:**	4
CAMSHAFT TYPE:	STANDARD	**TURBOCHARGER MODEL:**	GTB6251BN-48T-1.38
IGNITION TYPE:	CI	**CERTIFICATION YEAR:**	2014
INJECTOR TYPE:	CR	**CRANKCASE BLOWBY RATE (FT3/HR):**	2,436.4
FUEL INJECTOR:	4439455	**FUEL RATE (RATED RPM) NO LOAD (GAL/HR):**	25.1
REF EXH STACK DIAMETER (IN):	14	**PISTON SPD @ RATED ENG SPD (FT/MIN):**	2,598.4

INDUSTRY	SUB INDUSTRY	APPLICATION
OIL AND GAS	LAND PRODUCTION	PACKAGED GENSET
ELECTRIC POWER	STANDARD	PACKAGED GENSET

General Performance Data Top

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP
EKW	%	BHP	PSI	LB/BHP-HR	GAL/HR	IN-HG	DEG F	DEG F	IN-HG	DEG F
3,000.0	100	4,423	377	0.339	214.2	91.5	131.3	1,229.8	64.3	891.9
2,700.0	90	3,999	341	0.338	192.9	81.4	129.6	1,193.4	56.5	879.2
2,400.0	80	3,576	305	0.340	173.9	73.0	128.3	1,163.0	50.0	869.4
2,250.0	75	3,364	286	0.344	165.3	69.5	127.8	1,150.7	47.5	865.8
2,100.0	70	3,152	268	0.351	158.2	67.1	127.6	1,142.6	45.8	864.2
1,800.0	60	2,729	232	0.371	144.5	62.7	127.3	1,127.7	42.8	861.6
1,500.0	50	2,305	196	0.396	130.4	57.5	126.9	1,109.9	39.5	858.0
1,200.0	40	1,882	160	0.417	112.2	46.4	125.8	1,083.9	32.9	848.4
900.0	30	1,458	124	0.440	91.6	34.8	124.5	1,041.6	25.3	834.7
750.0	25	1,246	106	0.453	80.6	29.0	123.8	1,014.2	21.3	826.5
600.0	20	1,035	88	0.467	69.1	23.2	123.2	961.6	17.6	797.3
300.0	10	611	52	0.514	44.9	11.7	122.1	752.4	10.6	649.3

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
EKW	%	BHP	IN-HG	DEG F	CFM	CFM	LB/HR	LB/HR	FT3/I	

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
3,000.0	100	4,423	92	451.5	9,772.2	25,620.0	42,761.1	44,259.6	9,320.0	8,667.2
2,700.0	90	3,999	82	414.6	8,943.0	23,086.1	38,888.2	40,238.8	8,477.9	7,889.0
2,400.0	80	3,576	74	384.7	8,243.6	20,980.8	35,642.2	36,860.0	7,761.6	7,230.7
2,250.0	75	3,364	70	373.0	7,953.8	20,121.0	34,304.6	35,462.7	7,463.6	6,958.6
2,100.0	70	3,152	68	366.1	7,753.3	19,531.3	33,379.1	34,486.9	7,254.0	6,770.2
1,800.0	60	2,729	65	354.0	7,382.3	18,480.5	31,695.8	32,707.6	6,876.9	6,433.3
1,500.0	50	2,305	60	339.0	6,952.0	17,314.7	29,788.0	30,700.3	6,460.8	6,059.1
1,200.0	40	1,882	50	308.0	6,076.8	15,264.4	25,920.8	26,704.4	5,737.4	5,392.5
900.0	30	1,458	39	267.2	5,160.3	12,786.8	21,909.9	22,550.1	4,857.0	4,574.5
750.0	25	1,246	33	243.5	4,701.8	11,409.7	19,919.4	20,483.0	4,361.8	4,112.2
600.0	20	1,035	27	217.8	4,243.2	9,964.4	17,938.9	18,422.6	3,897.7	3,682.5
300.0	10	611	14	160.9	3,325.6	6,901.7	14,007.7	14,322.1	3,060.0	2,917.8

Heat Rejection Data Top

Note(s)
PUMP POWER IS INCLUDED IN HEAT REJECTION BALANCE, BUT IS NOT SHOWN.

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHUAST RECOVERY TO 350F	FROM OIL COOLER	FROM 2ND STAGE AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
3,000.0	100	4,423	78,436	8,336	179,063	101,475	24,486	28,224	187,548	459,719	489,716
2,700.0	90	3,999	70,525	7,773	161,695	89,988	22,085	23,040	169,590	414,639	441,694
2,400.0	80	3,576	63,777	7,308	147,071	80,799	19,915	18,972	151,631	373,899	398,296
2,250.0	75	3,364	60,840	7,112	140,788	77,146	18,917	17,358	142,651	355,157	378,331
2,100.0	70	3,152	58,599	6,984	136,398	74,726	18,070	16,328	133,672	339,264	361,402
1,800.0	60	2,729	54,754	6,750	128,972	70,419	16,496	14,928	115,714	309,709	329,917
1,500.0	50	2,305	50,870	6,524	120,720	65,533	14,875	13,738	97,755	279,270	297,493
1,200.0	40	1,882	45,639	6,304	106,679	55,828	12,823	11,188	79,796	240,744	256,453
900.0	30	1,458	38,952	6,092	88,655	45,754	10,475	8,227	61,838	196,664	209,497
750.0	25	1,246	35,102	5,988	78,431	40,805	9,211	6,848	52,858	172,945	184,229
600.0	20	1,035	30,773	5,789	67,509	34,336	7,896	5,681	43,879	148,253	157,927
300.0	10	611	20,277	4,828	43,873	17,588	5,132	4,028	25,920	96,361	102,649

Sound Data Top

Note(s)
SOUND DATA REPRESENTATIVE OF NOISE PRODUCED BY THE "ENGINE ONLY"

EXHAUST: Sound Power (1/3 Octave Frequencies)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	100 HZ	125 HZ	160 HZ	200 HZ	250 HZ	315 HZ	400 HZ	500 HZ	630 HZ	800 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,000.0	100	4,423	134.5	109.7	115.8	113.7	115.5	116.0	119.0	119.9	121.5	120.4	121.2
2,700.0	90	3,999	133.2	110.2	116.1	112.6	114.3	114.5	117.3	118.4	120.1	118.3	119.5
2,400.0	80	3,576	132.0	111.6	116.6	111.0	112.7	113.0	115.6	116.9	118.4	116.5	117.7
2,250.0	75	3,364	131.4	112.4	116.8	110.2	111.9	112.3	114.8	116.2	117.6	115.6	116.8
2,100.0	70	3,152	130.7	113.2	117.1	109.3	111.1	111.6	114.0	115.5	116.8	114.7	115.9
1,800.0	60	2,729	129.5	114.8	117.6	107.5	109.4	110.2	112.3	114.1	115.1	113.0	114.0
1,500.0	50	2,305	128.2	116.3	118.1	105.8	107.8	108.7	110.6	112.6	113.4	111.2	112.2
1,200.0	40	1,882	127.0	117.9	118.6	104.1	106.1	107.3	108.9	111.2	111.8	109.5	110.3
900.0	30	1,458	125.7	119.5	119.1	102.3	104.4	105.9	107.3	109.8	110.1	107.7	108.5
750.0	25	1,246	125.1	120.2	119.3	101.4	103.6	105.2	106.4	109.1			

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	100 HZ	125 HZ	160 HZ	200 HZ	250 HZ	315 HZ	400 HZ	500 HZ	630 HZ	800 HZ
600.0	20	1,035	124.4	121.0	119.6	100.6	102.8	104.5	105.6	108.4	108.4	105.9	106.7
300.0	10	611	123.2	122.6	120.0	98.8	101.1	103.0	103.9	106.9	106.8	104.2	104.8

EXHAUST: Sound Power (1/3 Octave Frequencies)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	1250 HZ	1600 HZ	2000 HZ	2500 HZ	3150 HZ	4000 HZ	5000 HZ	6300 HZ	8000 HZ	10000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,000.0	100	4,423	122.2	122.6	123.5	124.9	124.7	123.1	122.4	121.6	120.1	119.0	123.4
2,700.0	90	3,999	120.7	121.0	122.2	123.5	123.2	121.5	120.8	120.0	118.7	117.8	123.8
2,400.0	80	3,576	119.4	119.7	120.8	122.5	121.9	120.4	119.8	119.0	117.7	117.1	123.5
2,250.0	75	3,364	118.8	119.1	120.1	122.0	121.3	119.9	119.4	118.6	117.2	116.8	123.3
2,100.0	70	3,152	118.1	118.5	119.4	121.5	120.6	119.3	119.0	118.2	116.7	116.5	123.1
1,800.0	60	2,729	116.9	117.3	118.0	120.4	119.4	118.3	118.1	117.3	115.6	115.9	122.6
1,500.0	50	2,305	115.6	116.2	116.6	119.4	118.1	117.3	117.2	116.4	114.6	115.3	122.1
1,200.0	40	1,882	114.3	115.0	115.1	118.4	116.8	116.3	116.4	115.6	113.6	114.7	121.6
900.0	30	1,458	113.1	113.8	113.7	117.4	115.6	115.3	115.5	114.7	112.6	114.1	121.1
750.0	25	1,246	112.4	113.2	113.0	116.9	114.9	114.8	115.1	114.3	112.1	113.8	120.9
600.0	20	1,035	111.8	112.6	112.3	116.4	114.3	114.2	114.7	113.9	111.6	113.5	120.7
300.0	10	611	110.5	111.4	110.9	115.4	113.0	113.2	113.8	113.0	110.6	112.9	120.2

MECHANICAL: Sound Power (1/3 Octave Frequencies)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	100 HZ	125 HZ	160 HZ	200 HZ	250 HZ	315 HZ	400 HZ	500 HZ	630 HZ	800 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,000.0	100	4,423	125.9	89.8	105.6	98.4	100.6	104.5	108.3	111.6	113.3	112.5	114.1
2,700.0	90	3,999	125.8	89.4	105.5	97.9	100.9	103.3	108.7	111.1	112.7	112.2	113.8
2,400.0	80	3,576	126.0	89.0	105.0	97.8	99.8	102.4	108.0	111.0	111.8	111.9	113.0
2,250.0	75	3,364	126.1	88.8	104.7	97.8	99.1	102.1	107.5	111.0	111.3	111.7	112.6
2,100.0	70	3,152	126.2	88.5	104.3	97.8	98.4	101.7	107.0	111.0	110.8	111.6	112.2
1,800.0	60	2,729	126.5	88.1	103.7	97.8	96.9	100.9	106.0	111.0	109.8	111.2	111.4
1,500.0	50	2,305	126.7	87.7	103.0	97.8	95.4	100.2	105.1	111.0	108.8	110.9	110.5
1,200.0	40	1,882	127.0	87.3	102.4	97.7	94.0	99.4	104.1	110.9	107.8	110.6	109.7
900.0	30	1,458	127.2	86.9	101.7	97.7	92.5	98.6	103.1	110.9	106.8	110.2	108.9
750.0	25	1,246	127.3	86.7	101.4	97.7	91.8	98.2	102.6	110.9	106.3	110.1	108.5
600.0	20	1,035	127.4	86.4	101.0	97.7	91.0	97.9	102.1	110.9	105.8	109.9	108.1
300.0	10	611	127.7	86.0	100.4	97.7	89.6	97.1	101.2	110.9	104.8	109.6	107.2

MECHANICAL: Sound Power (1/3 Octave Frequencies)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	1250 HZ	1600 HZ	2000 HZ	2500 HZ	3150 HZ	4000 HZ	5000 HZ	6300 HZ	8000 HZ	10000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,000.0	100	4,423	112.7	113.9	114.6	115.3	115.0	112.7	110.9	111.9	114.3	113.4	117.8
2,700.0	90	3,999	112.5	113.7	114.5	115.0	114.5	112.3	110.4	111.1	113.6	112.9	119.2
2,400.0	80	3,576	112.2	113.2	113.8	114.4	114.2	111.9	110.0	110.7	113.2	112.6	121.4
2,250.0	75	3,364	112.0	112.9	113.4	114.0	114.2	111.7	109.8	110.5	112.9	112.6	122.6
2,100.0	70	3,152	111.8	112.6	113.0	113.7	114.1	111.4	109.6	110.3	112.7	112.5	123.8
1,800.0	60	2,729	111.3	112.1	112.2	113.1	113.9	111.0	109.3	110.0	112.3	112.3	126.2
1,500.0	50	2,305	110.9	111.5	111.4	112.4	113.7	110.6	109.0	109.6	111.9	112.1	128.6
1,200.0	40	1,882	110.5	110.9	110.5	111.7	113.5	110.2	108.6	109.3	111.5	111.9	131.0
900.0	30	1,458	110.1	110.3	109.7	111.1	113.4	109.8	108.3	109.0	111.0	111.8	133.4
750.0	25	1,246	109.9	110.0	109.3	110.7	113.3	109.6	108.1	108.8	110.8	111.7	134.6
600.0	20	1,035	109.7	109.7	108.9	110.4	113.2	109.3	107.9	108.6	110.6	111.6	135.8
300.0	10	611	109.3	109.2	108.1	109.7	113.0	108.9	107.6	108.3	110.2	111.4	138.2

Emissions Data Top

Units Filter All Units

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITH FAN ENGINE POWER		EKW BHP	3,000.0 4,423	2,250.0 3,364	1,500.0 2,305	750.0 1,246	300.0 611
PERCENT LOAD		**%**	**100**	**75**	**50**	**25**	**10**
TOTAL NOX (AS NO2)		G/HR	32,004	21,429	9,376	3,795	3,518
TOTAL CO		G/HR	5,743	6,479	3,534	5,489	3,566
TOTAL HC		G/HR	647	597	1,048	1,031	1,300
PART MATTER		G/HR	210.2	221.1	203.5	409.7	343.1
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	3,736.7	3,329.4	1,866.7	1,263.6	2,259.3
TOTAL CO	(CORR 5% O2)	MG/NM3	586.2	854.4	602.3	1,594.3	1,701.1
TOTAL HC	(CORR 5% O2)	MG/NM3	54.2	69.1	157.2	265.0	625.2
PART MATTER	(CORR 5% O2)	MG/NM3	18.2	25.6	31.4	103.5	158.0
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,820	1,621	909	616	1,101
TOTAL CO	(CORR 5% O2)	PPM	469	684	482	1,275	1,361
TOTAL HC	(CORR 5% O2)	PPM	101	129	294	495	1,167
TOTAL NOX (AS NO2)		G/HP-HR	7.28	6.40	4.08	3.05	5.76
TOTAL CO		G/HP-HR	1.31	1.93	1.54	4.41	5.84
TOTAL HC		G/HP-HR	0.15	0.18	0.46	0.83	2.13
PART MATTER		G/HP-HR	0.05	0.07	0.09	0.33	0.56
TOTAL NOX (AS NO2)		LB/HR	70.56	47.24	20.67	8.37	7.75
TOTAL CO		LB/HR	12.66	14.28	7.79	12.10	7.86
TOTAL HC		LB/HR	1.43	1.32	2.31	2.27	2.87
PART MATTER		LB/HR	0.46	0.49	0.45	0.90	0.76

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN ENGINE POWER		EKW BHP	3,000.0 4,423	2,250.0 3,364	1,500.0 2,305	750.0 1,246	300.0 611
PERCENT LOAD		**%**	**100**	**75**	**50**	**25**	**10**
TOTAL NOX (AS NO2)		G/HR	26,670	17,858	7,813	3,162	2,931
TOTAL CO		G/HR	3,190	3,599	1,963	3,050	1,981
TOTAL HC		G/HR	486	449	788	776	977
TOTAL CO2		KG/HR	2,143	1,609	1,236	751	416
PART MATTER		G/HR	150.1	157.9	145.3	292.7	245.1
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	3,113.9	2,774.5	1,555.6	1,053.0	1,882.8
TOTAL CO	(CORR 5% O2)	MG/NM3	325.6	474.7	334.6	885.7	945.0
TOTAL HC	(CORR 5% O2)	MG/NM3	40.7	51.9	118.2	199.3	470.1
PART MATTER	(CORR 5% O2)	MG/NM3	13.0	18.3	22.5	73.9	112.8
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,517	1,351	758	513	917
TOTAL CO	(CORR 5% O2)	PPM	261	380	268	709	756
TOTAL HC	(CORR 5% O2)	PPM	76	97	221	372	878
TOTAL NOX (AS NO2)		G/HP-HR	6.07	5.33	3.40	2.54	4.80
TOTAL CO		G/HP-HR	0.73	1.07	0.85	2.45	3.24
TOTAL HC		G/HP-HR	0.11	0.13	0.34	0.62	1.60
PART MATTER		G/HP-HR	0.03	0.05	0.06	0.24	0.40
TOTAL NOX (AS NO2)		LB/HR	58.80	39.37	17.22	6.97	6.46
TOTAL CO		LB/HR	7.03	7.94	4.33	6.72	4.37
TOTAL HC		LB/HR	1.07	0.99	1.74	1.71	2.15
TOTAL CO2		LB/HR	4,723	3,547	2,724	1,655	917
PART MATTER		LB/HR	0.33	0.35	0.32	0.65	0.54
OXYGEN IN EXH		%	9.9	10.6	11.8	12.6	14.4
DRY SMOKE OPACITY		%	0.5	0.7	0.6	4.8	4.7
BOSCH SMOKE NUMBER			0.19	0.28	0.24	1.25	1.24

Regulatory Information Top

EPA TIER 2 **2006 - 2010**

GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 89 SUBPART D AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE NON-ROAD REGULATIONS.

Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
U.S. (INCL CALIF)	EPA	NON-ROAD	TIER 2	CO: 3.5 NOx + HC: 6.4 PM: 0.20

EPA EMERGENCY STATIONARY **2011 - ----**

GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 60 SUBPART IIII AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE EMERGENCY STATIONARY REGULATIONS.

Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
U.S. (INCL CALIF)	EPA	STATIONARY	EMERGENCY STATIONARY	CO: 3.5 NOx + HC: 6.4 PM: 0.20

Altitude Derate Data Top

Note(s)
ALTITUDE DERATE DATA IS BASED ON THE ASSUMPTION OF A 20 DEGREES CELSIUS(36 DEGREES FAHRENHEIT) DIFFERENCE BETWEEN AMBIENT OPERATING TEMPERATURE AND ENGINE INLET MANIFOLD TEMPERATURE (IMAT). AMBIENT OPERATING TEMPERATURE IS DEFINED AS THE AIR TEMPERATURE MEASURED AT THE TURBOCHARGER COMPRESSOR INLET.

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	30	40	50	60	70	80	90	100	110	120	130	140	NORMAL
ALTITUDE (FT)													
0	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423
1,000	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,405	4,423
2,000	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,355	4,423
3,000	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,423	4,376	4,309	4,216	4,423
4,000	4,345	4,345	4,345	4,345	4,345	4,345	4,344	4,344	4,343	4,280	4,190	4,100	4,345
5,000	4,174	4,174	4,174	4,174	4,174	4,174	4,173	4,172	4,170	4,130	4,073	4,017	4,174
6,000	4,015	4,015	4,015	4,015	4,015	4,015	4,013	4,011	4,008	3,988	3,960	3,933	4,015
7,000	3,868	3,868	3,868	3,868	3,868	3,868	3,866	3,863	3,859	3,853	3,847	3,840	3,868
8,000	3,751	3,751	3,751	3,751	3,751	3,751	3,749	3,745	3,742	3,736	3,729	3,723	3,751
9,000	3,634	3,634	3,634	3,634	3,634	3,634	3,633	3,628	3,624	3,618	3,612	3,606	3,634
10,000	3,523	3,523	3,523	3,523	3,523	3,523	3,521	3,517	3,512	3,506	3,500	3,495	3,523
11,000	3,417	3,417	3,417	3,417	3,417	3,417	3,415	3,411	3,406	3,400	3,394	3,388	3,417
12,000	3,312	3,312	3,312	3,312	3,312	3,312	3,310	3,304	3,299	3,294	3,288	3,282	3,312
13,000	3,206	3,206	3,206	3,206	3,206	3,206	3,204	3,198	3,193	3,188	3,182	3,176	3,206
14,000	3,100	3,100	3,100	3,100	3,100	3,100	3,098	3,093	3,088	3,083	3,079	3,074	3,100
15,000	2,993	2,993	2,993	2,993	2,993	2,993	2,991	2,988	2,984	2,981	2,977	2,974	2,993

Cross Reference Top

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
0K8532	LL6018	3079788	GS265	-	WYB01883	

Performance Parameter Reference Top

Parameters Reference: DM9600 - 11

PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600

APPLICATION: Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

PERFORMANCE PARAMETER TOLERANCE FACTORS: Power +/- 3% Torque +/- 3% Exhaust stack temperature +/- 8% Inlet airflow +/- 5% Intake manifold pressure-gage +/- 10% Exhaust flow +/- 6% Specific fuel consumption +/- 3% Fuel rate +/- 5% Specific DEF consumption +/- 3% DEF rate +/- 5% Heat rejection +/- 5% Heat rejection exhaust only +/- 10% Heat rejection CEM only +/- 10%
Heat Rejection values based on using treated water.
Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.
On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.
These values do not apply to C280/3600. For these models, see the tolerances listed below.

C280/3600 HEAT REJECTION TOLERANCE FACTORS: Heat rejection +/- 10% Heat rejection to Atmosphere +/- 50% Heat rejection to Lube Oil +/- 20% Heat rejection to Aftercooler +/- 5%

TEST CELL TRANSDUCER TOLERANCE FACTORS: Torque +/- 0.5% Speed +/- 0.2% Fuel flow +/- 1.0% Temperature +/- 2.0 C degrees Intake manifold pressure +/- 0.1 kPa
OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.

REFERENCE ATMOSPHERIC INLET AIR FOR 3500 ENGINES AND SMALLER SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard tempera

25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.
FOR 3600 ENGINES Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JANJAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE Location for air temperature measurement air cleaner inlet at stabilized operating conditions.

REFERENCE EXHAUST STACK DIAMETER The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

REFERENCE FUEL DIESEL Reference fuel is #2 distillate diesel with a 35API gravity; A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at 29 deg C (84.2 deg F), where the density is 838.9 G/Liter (7.001 Lbs/Gal).
GAS Reference natural gas fuel has a lower heating value of 33.74 KJ/L (905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on 87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel out put power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

ALTITUDE CAPABILITY Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.
Standard temperature values versus altitude could be seen on TM2001.
When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.
Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.
Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

REGULATIONS AND PRODUCT COMPLIANCE TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.
Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

EMISSIONS DEFINITIONS: Emissions : DM1176

EMISSION CYCLE DEFINITIONS
1. For constant-speed marine engines for ship main propulsion, including,diesel-electric drive, test cycle E2 shall be applied, for controllable-pitch propeller sets test cycle E2 shall be applied.
2. For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied.
3. For constant-speed auxiliary engines test cycle D2 shall be applied.
4. For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

HEAT REJECTION DEFINITIONS: Diesel Circuit Type and HHV Balance : DM9500

HIGH DISPLACEMENT (HD) DEFINITIONS: 3500: EM1500

RATING DEFINITIONS: Agriculture : TM6008
Fire Pump : TM6009
Generator Set : TM6035
Generator (Gas) : TM6041
Industrial Diesel : TM6010
Industrial (Gas) : TM6040
Irrigation : TM5749
Locomotive : TM6037
Marine Auxiliary : TM6036
Marine Prop (Except 3600) : TM5747
Marine Prop (3600 only) : TM5748
MSHA : TM6042
Oil Field (Petroleum) : TM6011
Off-Highway Truck : TM6039
On-Highway Truck : TM6038

SOUND DEFINITIONS: Sound Power : DM8702
Sound Pressure : TM7080

Date Released : 11/29/18