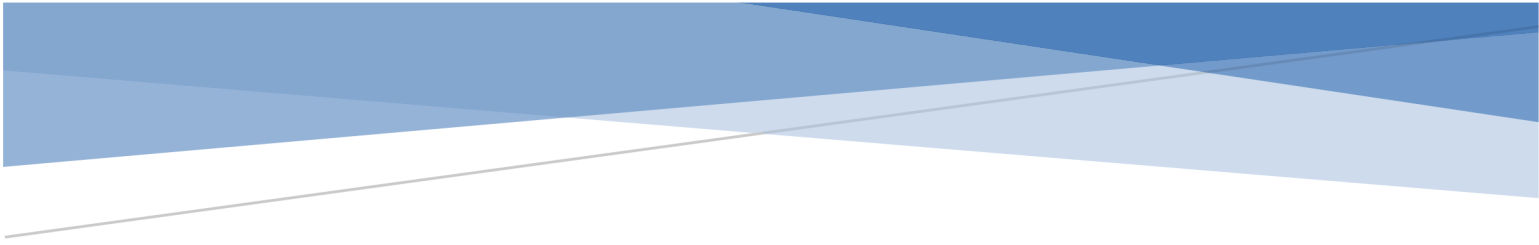


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RESPONSE TO CEC STAFF DATA REQUEST SET 3

San Jose Data Center 04 (22-SPPE-02)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION

SUBMITTED BY: **Microsoft**

July 2024



INTRODUCTION

Attached are Microsoft's responses to California Energy Commission (CEC) Staff Data Request Set No. 3 (81-88) for the SJ04 Data Center Application for Small Power Plant Exemption (SPPE) (22-SPPE-02). Staff issued Data Request Set No. 3 on April 25, 2024.

The Data Responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as Staff presented them and are keyed to the Data Request numbers (81-88). Additional tables, figures, or documents submitted in response to a data request (e.g., supporting data, stand-alone documents such as plans, folding graphics, etc.) are found in Attachments at the end of the document and labeled with the Data Request Number for ease of reference.

For context, the text of the Background and Data Request precede each Data Response.

GENERAL OBJECTIONS

Microsoft objects to all data requests that require analysis beyond which is necessary to comply with the California Environmental Quality Act (CEQA) or which require Microsoft to provide data that is in the control of third parties and not reasonably available to Microsoft. Notwithstanding this objection, Microsoft has worked diligently to provide these responses swiftly to allow the CEC Staff to prepare the Draft Environmental Impact Report (DEIR).

AIR QUALITY

BACKGROUND: REVISED CONSTRUCTION IMPACTS MODELING

In AQ Memorandum Revised Construction Analysis (TN 255059), the Project Owner's representative states that the revised construction emissions are all less than the construction emission calculations presented in the original submittal of the Small Power Plant Exemption (SPPE) application. However, as shown in the table below, the revised maximum annual emissions for some pollutants (marked in bold) would be higher than those in the original submittal of the SPPE application. Staff needs an updated ambient air quality impacts analysis and an updated health risk assessment to understand whether the revised construction emissions would not cause significant impacts.

	ROG	NOx	CO	SO ₂	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	Max Tons per Year									
Original (TN 245949)	3.127	0.835	1.969	0.006	0.271	0.008	0.278	0.097	0.008	0.104
Revised Non-Phased (TN255059)	1.774	2.656	2.638	0.0154	0.288	0.0274	0.315	0.110	0.0264	0.1364
Revised Phase 1 (TN255059)	0.913	1.402	1.96	0.0088	0.21	0.016	0.225	0.087	0.015	0.102
Revised Phase 2 (TN 255059)	1.62	1.28	1.02	0.007	0.222	0.013	0.235	0.06	0.012	0.072

DATA REQUESTS

81. Please provide an updated ambient air quality impacts analysis and an updated health risk assessment for both the non-phased and phased construction scenarios.

RESPONSE TO DATA REQUEST 81

The table as presented by CEC staff for Data Requests 81, 82, and 83 is mislabeled. The first row of this table titled "Original (TN245949)" does not represent tons per year, but rather tons per period. The tons per period were not used for modeling purposes.

Both construction and operational data have been revised by the Applicant and represents significant changes in site characteristics, i.e., construction equipment types, numbers, and use rates, cut and fill parameters, revised construction start dates, etc., for both the non-phased and phased construction scenarios. Additionally, changes to the

onsite equipment have also been reevaluated. In general, the changes listed below have now been incorporated into the revised air quality, public health impacts assessment and updated support appendices included in Attachment AQ DR-81. The proposed changes include:

- Revised Fence Location
- Rotated SJC04 and SJC06 buildings by three degrees
- Two new diesel engine fire pumps (John Deere JU4H-UFAD5G)
 - One in SJC04 and One in SJC06
 - 104 kW Diesel Engine, Tier III Rated
 - New stack height of 60' Above Grade
- Two new admin generators (Cat C27)
 - One in SJC04 and One in SJC06
 - 800 kW Diesel Engine, Tier IV Compliant
 - New stack height of 60' Above Grade
- 2 new tank area generators (Cat C27)
 - 800 kW Diesel Engine, Tier IV Compliant
 - No change to the stack location
- Updated chiller water circulation rate on the SJC04 and SJC06 Data Centers to 650 gallons per minute
 - Revised PM10/2.5 and toxics emissions
- Removed fire water tank
- Replace two water tanks with two larger recycled water tanks that are 80 feet in diameter and 32 feet high

82. Please provide an updated ambient air quality impacts analysis and an updated health risk assessment for the overlap period with readiness testing and maintenance of Phase I engines and construction of Phase II building for the phased scenario.

RESPONSE TO DATA REQUEST 82

Please see Response to Data Request 81 and Attachment AQ DR-81. The ambient air quality and health risk assessments have been revised for both construction and

operations based on updated applicant data.

83. Please provide the updated CalEEMod spreadsheets used to calculate both the phased and non-phased revised construction emissions.

RESPONSE TO DATA REQUEST 83

The updated CalEEMod outputs are provided in the support appendices included in Attachment AQ DR-81.

HAZARDS

BACKGROUND: DEPTH OF EXCAVATION FOR PACIFIC GAS AND ELECTRIC COMPANY MICROWAVE TOWERS

Pacific Gas and Electric Company (PG&E) would install two microwave towers as part of its reconductoring activities. These towers are expected to be approximately 80 to 90 feet in height and consist of three-leg, self-supporting lattice steel towers on top of 20-foot by 20-foot slab foundations. No information regarding the anticipated ground disturbance for the microwave towers was included.

DATA REQUEST

84. Please provide information on the anticipated extent and depth of ground disturbance/excavation for the microwave towers.

RESPONSE TO DATA REQUEST 84

PG&E has not yet finalized the design of the microwave tower foundations. However, in response to Microsoft requesting PG&E assist in further refining the estimates provided in the Revised Project Description, PG&E estimates that for each microwave tower foundation will likely require a disturbance area of approximately 24 feet by 24 feet and up to 6 feet deep.

It should be noted that the disturbance associated with one of the towers would take place within an existing previously graded Substation (within the existing Zanker Road Substation at the City of San Jose/Santa Clara Regional Water Treatment Facility). The disturbance associated with the second tower will be within the footprint of the proposed on-site PG&E Switching Station after the Project Site has been graded.

LAND USE

BACKGROUND: CONSISTENCY WITH LAND USE PLANS AND POLICIES

In Data Request Set 2, staff described how the Land Use analysis is largely focused on evaluating consistency of the project with municipal government agency plans, policies, and regulations, including the Envision San José 2040 General Plan, the City's zoning ordinance, and the Comprehensive Land Use Plan (CLUP) for the San José Mineta International Airport. Staff stated that the Land Use analysis "walks through each applicable policy or regulatory requirement and provides information to justify consistency conclusions" (Data Request #69, TN 249643).

CEC staff also referred to the applicant's responses to Data Request Set 1, which included this statement: "Microsoft has received City Departmental/Agency comments/requests for project revisions and potential conditions of approval. The Microsoft design team is currently responding to these comments and preparing plan revisions" (Response to Data Request #43, TN 249012).

In its response to Data Request Set 2, the applicant provided a copy of the "City's departmental and agency comments and requests for project revisions and potential conditions of approval" (Response to Data Request #69, TN 250708). The City's comments from December 2022 and January 2023 provided detailed requests for revisions, including the requirement for the project to obtain a Conditional Use Permit (CUP) because an electrical substation would be part of the project.

DATA REQUESTS

85. Staff requests information on any updated reviews and comments from the City as part of its review of project completeness and consistency with relevant policies and regulations. If the City has updated its departmental comments and requests for project revisions, please provide a copy.

RESPONSE TO DATA REQUEST 85

The City recently provided letters stating that Microsoft's application for a Conditional Use Permit is complete and the City has no further comments. Please see Attachment LU DR-85.

Microsoft believes the current Revised Project Description includes all changes to the project requested by the City as part of its review process. The Revised Project Description along with the changes described in Response to Data Request DR 81 above represent the Project sufficient for the CEC to complete its CEQA review and complete its EIR.

86. Staff requests information on the project's consistency with the CLUP, including Policy G-5, which requires dedication of an avigation easement to the City as a condition of approval on all projects located in the Airport Influence Area.

RESPONSE TO DATA REQUEST 86

See Table DR-86 in Attachment LU DR-86 for a detailed evaluation of Project consistency with the CLUP.

The SJ04 Project Site is already subject to an avigation easement, which was issued in 1977 for parcels of property that include the SJ04 Project Site. The terms of the Avigation Easement provide that subsequent property owners are bound by the Avigation Easement as it "runs with the land". See Attachment LU-DR 86.

87. Please explain whether there is an existing avigation easement governing structure heights for the property, and if there is, please state whether it is consistent with the October 24, 2023, Federal Aviation Administration Final Notices of Determination of No Hazard issued for the proposed project (TN 255061, Appendix J).

RESPONSE TO DATA REQUEST 87

As discussed in Response to Data Request 86, the Project Site is subject to an existing avigation easement, which protects the airspace above the FAA Part 77 Surface, and defined as the airspace above 150 feet above the San Jose Airport (See Attachment LU DR-87). All aspects of the project structures are well below the FAA Part 77 Surface. The FAA Final Notices of Determination No Hazard determined that no aspect of the project would penetrate the protected FAA Part 77 Surface and therefore, the avigation easement is consistent with the FAA Determinations provided in Appendix J to the Revised Project Description.

TRANSPORTATION

BACKGROUND: CONSTRUCTION ACTIVITIES AND WORKER VEHICLE TRIPS

As noted in in Data Request Set 1, the San Jose Transportation Handbook, Section 4.19 Construction, states “To the extent possible the operational analysis should include information about the project construction such as duration, hours of operations, any required grading, potential haul routes, traffic control plans, closure or relocation of bus stops, street closures and construction entrances.”

After review of the SPPE application and Draft Vehicle Miles Traveled (VMT) Analysis in Appendix I, Data Request Set 1 (TN 248456) requested additional detail on construction worker activities to adequately answer CEQA Transportation question b:

- 55. Please provide a table labeled “Construction Trip Generation” that includes offsite construction worker trips that would be routed to the 2825 Lafayette Street parking and staging area. The trip generation table should include information on trip type (delivery/haul trucks, maximum and average amount of construction workers, and total construction traffic) and AM and PM peak hour trips.*
- 56. Please include anticipated schedules for the construction worker shuttle buses.*
- 57. Please provide a map of the construction worker parking and laydown areas. Include the route(s) to be used to get to and from the project site.*
- 58. Approximately how long would construction take to complete the new 1.5-mile recycled water connection?*
- 59. Approximately how long would construction take to complete pedestrian improvements along Component Way? Would improvements take place during project construction?*

Detailed responses were provided in Microsoft Responses to CEC Data Request Set 1 - SJ04 - Part I (TN 249012).

DATA REQUEST

88. Staff requests that the responses to Data Request 1 be reviewed and that updated information be provided, as needed, to reflect the Revised Project Description Figures (TN 255411).

RESPONSE TO DATA REQUEST 88

Microsoft has reviewed the Responses to Data Requests 55 through 59 and has provided the following modifications to the Responses to Data Requests 55 and 56. No modifications to Responses to Data Requests 57 through 59 are necessary.

MODIFIED RESPONSE TO DATA REQUEST 55

Construction Trip Generation Parking Lot: 2825 Lafayette St, Santa Clara, CA 95050		
	Parking Lot - Trip Generation Rate	Trip Type (Busing Personnel)
Max. Amount of Construction Workers	75 per bus	Bus transfer to site
Average amount of Construction Workers	50 per bus	Bus transfer to site
AM Peak Hour Trips	8 11 Round Trips/ Mon. - Sat.	Bus transfer to site
PM Peak Hour Trips	8 11 Round Trips / Mon. -Sat	Bus transfer to site

Construction Trip Generation Storage/Staging Area Address: Peninsula Crane & Rigging 656 Wool Creek Dr, San Jose, CA 95112		
	Storage/ Staging Trip Generation Rate (round trips/day)	AM / Peak Hour Trips
Delivery	1-4 12 Deliveries/day one way	N/A - As needed basis
Haul to Site	1-4 12 round trips material pick up / day	AM Peak - 1-6 Material Pick ups PM Peak - 1-4 Material Pick ups

MODIFIED RESPONSE TO DATA REQUEST 56

Description	Time Frame	Trip Generation Rate (round trips/day)	Number of Active Buses
Construction Personnel Start of Workday	6am - 8am	8 11 Round Trips	4 5
Storage / Delivery for staging items	As needed basis	1-4 12 per day	N/A
Construction Personnel End of Workday	2:15pm - 4:30	8 11 Round Trips	4 5

ATTACHMENTS

ATTACHMENT AQ DR-81

Updated and Revised Air Quality and Public Health Assessment

Revised Appendices
Microsoft Data Center
SJC04/06
July 2024

Appendix AQ1
Emissions Data
Criteria Pollutants and HAPs

[illegible]

Table AQ1-2 Emissions Estimates for Emergency Standby Generators

Engine Mfg:	Caterpillar	# of Units:	2	Max # of Engines Tested per Day:				1	# Redundant Engines:				0			
Model #:	C27		Tank Units	(engines are not tested concurrently)					Emer Ops Engines:				2			
Fuel:	ULSD	Engine Data										METRIC UNITS				
Fuel S, %wt:	0.0015		BHP	kWe	Load %	RPM	Fuel, gph	Stk Ht, ft	Stk Diam, in	Stk Temp, F	mmbtu/hr	Stk Flow, ACFM	Stack Vel, f/s	Stk Diam, m	Kelvins	Stk Vel, m/s
Fuel wt, lb/gal:	7.05		1214	800	100	1800	56.5	14	18	952.5	7.85	6011.7	56.6988	0.4572	784.54	17.2818
Btu/gal:	139000															
Lbs S/1000 gal:	0.10575															
Lbs SO2/1000 gal:	0.2115	(use 0.005 g/bhp-hr as default SO2 factor for all loads)														
EPA Tier:	4															
Control System:	SCR and Oxidation Catalyst + DPF to Meet T4															
Turbocharged:	Yes	Stack Exit Area (sq.ft) = 1.767146														
Aftercooled:	Yes															
			Emissions Factor Scenarios (all values in g/bhp-hr)								CO2e					
Scenarios			NOx	CO	VOC	SO2	PM10	PM2.5	lb/mmbtu							
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load			0.5	2.6	0.14	0.005	0.02	0.02	163.052							
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load			1.50	2.60	0.18	0.005	0.02	0.02	163.052							
Weighted EF Input and Calculation Data																
0.25 hr Uncontrolled , using EPA T2 EFs, 100% Load, w/DPF			4.5	2.6	0.3	163.052										
0.75 hr Controlled, using Tier 4 EFs, 100% Load, w/DPF			0.5	2.6	0.14	163.052										
			Controlled Emissions Factor Scenarios (all values in g/bhp-hr)								CO2e					
			NOx	CO	VOC	SO2	PM10	PM2.5	lb/mmbtu							
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load			0.500	2.600	0.140	0.005	0.020	0.020	163.052							
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load			1.50	2.60	0.18	0.005	0.020	0.020	163.052							
Scenario 1: Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load																
Max Hourly Runtime:			1													
Max Daily Runtime:			24	Single Engine												
Max Annual Runtime:			100	NOx	CO	VOC	SO2	PM10	PM2.5	CO2e						
			lbs/hr	1.338	6.959	0.375	0.013	0.054	0.054	na						
			lbs/day	32.117	167.009	8.993	0.321	1.285	1.285	na						
			TPY	0.067	0.348	0.019	0.001	0.003	0.003	64.0						
			All Engines													
			NOx	CO	VOC	SO2	PM10	PM2.5	CO2e							
			lbs/hr	2.68	13.92	0.75	0.03	0.11	0.11	na						
			lbs/day	64.23	334.02	17.99	0.64	2.57	2.57	na						
			TPY	0.13	0.70	0.04	0.001	0.005	0.005	128.05						
Scenario 2: Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load																
Max Hourly Runtime:			1													
Max Daily Runtime:			1	Single Engine												
Max Annual Runtime:			50	NOx	CO	VOC	SO2	PM10	PM2.5	CO2e						
			lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054	na						
			lbs/day	4.015	6.959	0.482	0.013	0.054	0.054	na						
			TPY	0.100	0.174	0.012	0.0003	0.001	0.001	32.0						
			1 Engine													
			NOx	CO	VOC	SO2	PM10	PM2.5	CO2e							
			lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054	na						
			lbs/day	4.015	6.959	0.482	0.013	0.054	0.054	na						
			All Engines													
			TPY	0.20	0.35	0.02	0.001	0.003	0.003	64.03						
C27 BAAQMD 150 Hrs/Yr Emissions Totals, TPY:			NOx	CO	VOC	SO2	PM10	PM2.5	CO2e							
			0.335	1.044	0.062	0.0020	0.008	0.008	192.1							

Engine Mfg:	Caterpillar	# of Units:	2	Max # of Engines Tested per Day:				1	# Redundant Engines:				0			
Model #:	C27	Admin Units		(engines are not tested concurrently)						# Emer Ops Engines:				2		
Fuel:	ULSD	Engine Data												METRIC UNITS		
											Stk Flow,	Stack Vel,	Stk Temp,			
Fuel S, %wt:	0.0015	BHP	kWe	Load %	RPM	Fuel, gph	Stk Ht, ft	Stk Diam, in	Stk Temp, F	mmbtu/hr	ACFM	f/s	Stk Diam, m	Kelvins	Stk Vel, m/s	
Fuel wt, lb/gal:	7.05	1214	800	100	1800	56.5	60	18	952.5	7.85	6011.7	56.6988	0.4572	784.54	17.2818	
Btu/gal:	139000															
Lbs S/1000 gal:	0.10575															
Lbs SO2/1000 gal:	0.2115	(use 0.005 g/bhp-hr as default SO2 factor for all loads)														
EPA Tier:	4															
Control System:	SCR and Oxidation Catalyst + DPF to Meet T4															
Turbocharged:	Yes	Stack Exit Area (sq.ft) = 1.767146														
Aftercooled:	Yes															
			Emissions Factor Scenarios (all values in g/bhp-hr)							CO2e						
Scenarios		NOx	CO	VOC	SO2	PM10	PM2.5	lb/mmbtu								
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load		0.5	2.6	0.14	0.005	0.02	0.02	163.052								
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load		1.50	2.60	0.18	0.005	0.02	0.02	163.052								
Weighted EF Input and Calculation Data																
0.25 hr Uncontrolled , using EPA T2 EFs, 100% Load, w/DPF		4.5	2.6	0.3			163.052									
0.75 hr Controlled, using Tier 4 EFs, 100% Load, w/DPF		0.5	2.6	0.14			163.052									
			Controlled Emissions Factor Scenarios (all values in g/bhp-hr)							CO2e						
		NOx	CO	VOC	SO2	PM10	PM2.5	lb/mmbtu								
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load		0.500	2.600	0.140	0.005	0.020	0.020	163.052								
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load		1.50	2.60	0.18	0.005	0.020	0.020	163.052								
Scenario 1: Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load																
Max Hourly Runtime:	1															
Max Daily Runtime:	24															
Max Annual Runtime:	100	NOx	CO	VOC	SO2	PM10	PM2.5	CO2e								
	lbs/hr	1.338	6.959	0.375	0.013	0.054	0.054	na								
	lbs/day	32.117	167.009	8.993	0.321	1.285	1.285	na								
	TPY	0.067	0.348	0.019	0.001	0.003	0.003	64.0								
All Engines																
	lbs/hr	NOx	CO	VOC	SO2	PM10	PM2.5	CO2e								
	lbs/day	2.68	13.92	0.75	0.03	0.11	0.11	na								
	TPY	64.23	334.02	17.99	0.64	2.57	2.57	na								
		0.13	0.70	0.04	0.001	0.005	0.005	128.05								
Scenario 2: Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load																
Max Hourly Runtime:	1															
Max Daily Runtime:	1															
Max Annual Runtime:	50	NOx	CO	VOC	SO2	PM10	PM2.5	CO2e								
	lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054	na								
	lbs/day	4.015	6.959	0.482	0.013	0.054	0.054	na								
	TPY	0.100	0.174	0.012	0.0003	0.001	0.001	32.0								
1 Engine																
	lbs/hr	NOx	CO	VOC	SO2	PM10	PM2.5	CO2e								
	lbs/day	4.015	6.959	0.482	0.013	0.054	0.054	na								
		4.015	6.959	0.482	0.013	0.054	0.054	na								
All Engines																
	TPY	0.20	0.35	0.02	0.001	0.003	0.003	64.03								
C27 BAAQMD 150 Hrs/Yr Emissions Totals, TPY:																
		NOx	CO	VOC	SO2	PM10	PM2.5	CO2e								
		0.335	1.044	0.062	0.0020	0.008	0.008	192.1								

Table AQ1-4 Emissions Estimates for Emergency Standby Generators

[illegible]

Table AQ1-5 Cooling Towers-Wet Surface Condensers PM10/PM2.5 Based on Makeup Water TDS and Cycles of Concentration

Scenario or Project ID:	Microsoft DC Water Demand SJC04 and SJC06 (for 1 Hr and daily emissions and impacts)			
Indirect Cooling Systems	Reclaimed Water		Tower Physical Data (optional)	
# of Identical Towers:	64		# of Fans:	256 2 per sell
# of Cells in each Tower:	2		Individual Fan Data	
Operational Schedule: Hrs/day	24		Fan ACFM:	
Days/Year	365		Fan Diam (ft):	0 m
Hrs/Year	7807		Exit Vel (ft/sec)	0.000 m/s
Total tower circulation rate, gpm:	650.0		Length (ft)	0.00 m
Flow of cooling water (lbs/hr)	325026.0		Width (ft)	0.00 m
TDS in Makeup Water: (mg/l or ppmw)	513.0		Deck Ht (ft)	0.00 m
Cycles of Concentration:	4.0		Fan Ht (ft)	0.00 m
Avg TDS of circ water (mg/l or ppmw)	2052.0	annual avg value		
Flow of dissolved solids (lbs/hr)	666.95			
Fraction of flow producing drift*	1.00	1= worst case		
Control efficiency of drift eliminators, %	0.0005	0.000005		
Calculated drift rate (lbs water/hr)		1.625	39.0	Calc lbs/day
	Per Tower	Per Cell	All Towers	
PM10 emissions (lbs/hr)	0.0033	0.0017	0.2134	
PM10 emissions (lbs/day)	0.0800	0.0400	5.1222	
PM10 emissions (tpy)	0.0130	0.0065	0.8331	
PM2.5 fraction of PM10	1.00	1= worst case		
PM2.5 emissions (lbs/hr)	0.0033	0.0017	0.2134	
PM2.5 emissions (lbs/day)	0.0800	0.0400	5.1222	
PM2.5 emissions (tpy)	0.0130	0.0065	0.8331	

Notes:

Based on Method AP 42, Section 13.4, Jan 1995

*Technical Report EPA-600-7-79-251a, Page 63

Effects of Pathogenic and Toxic Materials Transported Via Cooling Device Drift - Volume 1.

Total maximum facility water demand is estimated to be 221.5 million gallons per year for cooling.

CYCLES OF CONCENTRATION-in laymans terms, the TDS in the blowdown or circulating water divided by the TDS in the incoming makeup water yields the cycles of concentration.

Table AQ1-6 Cooling Tower HAPs Emissions Estimates

Calculation of Hazardous and Toxic Pollutant Emissions from Cooling Towers

Scenario: Microsoft DC SJC04/06 Buildout

Reclaimed Water from SBWR

Total GPM Recirc Rate thru Cooling Unit: 6.50E+02

Op Hrs/Day 24

Flow of Cooling Water (lbs/hr): 3.25E+05

Op Hrs/Yr: 7807

Drift Rate, %: 5.00E-04

Total Cooling Units: 64

***Max Drift Rate: 1.626E+00 lbs/hr

Conc Cycles: 4

Constituent	Conc in Cooling Tower Recirc Water		Total All Units			Single Unit		
			Emissions, lb/hr	Emissions, lb/day	Emissions, lbs/yr	Emissions, lb/hr	Emissions, lb/day	Emissions, lb/yr
Arsenic *	0.0006	ppm	3.90E-09	9.37E-08	3.05E-05	6.10E-11	1.46E-09	4.76E-07
Boron	0.396	ppm	2.58E-06	6.18E-05	2.01E-02	4.03E-08	9.66E-07	3.14E-04
Cadmium *	0.0001	ppm	6.51E-10	1.56E-08	5.08E-06	1.02E-11	2.44E-10	7.94E-08
Calcium	31.9	ppm	2.08E-04	4.98E-03	1.62E+00	3.24E-06	7.78E-05	2.53E-02
Chloride	165	ppm	1.07E-03	2.58E-02	8.38E+00	1.68E-05	4.03E-04	1.31E-01
Total Chromium *	0.0005	ppm	3.25E-09	7.81E-08	2.54E-05	5.08E-11	1.22E-09	3.97E-07
Copper *	0.0016	ppm	1.04E-08	2.50E-07	8.13E-05	1.63E-10	3.90E-09	1.27E-06
Iron	0.101	ppm	6.57E-07	1.58E-05	5.13E-03	1.03E-08	2.46E-07	8.01E-05
Lead *	0.0002	ppm	1.30E-09	3.12E-08	1.02E-05	2.03E-11	4.88E-10	1.59E-07
Magnesium	21	ppm	1.37E-04	3.28E-03	1.07E+00	2.13E-06	5.12E-05	1.67E-02
Mercury *	0.0000009	ppm	5.85E-12	1.41E-10	4.57E-08	9.15E-14	2.20E-12	7.14E-10
Nickel *	0.0029	ppm	1.89E-08	4.53E-07	1.47E-04	2.95E-10	7.07E-09	2.30E-06
Phosphate	0.928	ppm	6.04E-06	1.45E-04	4.71E-02	9.43E-08	2.26E-06	7.36E-04
Potassium	11.7	ppm	7.61E-05	1.83E-03	5.94E-01	1.19E-06	2.85E-05	9.28E-03
Silicon	6.55	ppm	4.26E-05	1.02E-03	3.33E-01	6.66E-07	1.60E-05	5.20E-03
Zinc	0.0136	ppm	8.85E-08	2.12E-06	6.91E-04	1.38E-09	3.32E-08	1.08E-05
Total Federal HAPs, lbs/yr:					3.00E-04			
Total Federal HAPs, tons/yr:					1.50E-07			

- Notes:
- (1) 2021 Annual reclaimed water analysis data supplied by project applicant.
 - (2) mg/l = ppm
 - (3) ug/l = ppb (convert ppb to equivalent ppm for entry: ppm=ppb/1000)
 - * indicates a federal HAP
 - (4) 4 cycles of concentration assumed for all calculations.

Table AQ1-7 Fixed Roof Tank Emissions Estimates

Ref: AP-42, Section 7.1, 11/2006

			indicates input		
Standing Storage Losses				Comments	Note
Type of organic liquid:	#2 ULS Diesel				
Vapor molecular weight:	Mw	130	AP-42		
Vapor density, lbs/ft ³ :	Vd	0.00015243			
Liquid density, lbs/gal	DI	7.05	AP-42		
TVP, psia @ 60F	Vp	0.0065	AP-42 (consistent with Ta below)		
~ Tank diameter, ft.	D	12			
~ Tank height or length, ft.	H	60			
~ Tank capacity, gals	Tc	50000			
Avg vapor space height, ft.	Hv	4	annual avg value based on use versus tank refills		
Vapor space volume, ft ³	Vv	452.39			
~Total tank volume, ft ³	Tv	6684	Based on actual tank dimensions		
Avg Annual Temp, F	Ta	56.6	API Bulletin 2517, for SFO Airport		
Avg diurnal temp change, F	Tc	13.1	Avg max minus avg min.		
Paint factor	Pf	0.05	AP-42, Table 7.1-6, solar absorbance value		1
Product factor	Pd	1	Crude = 0.75, all others = 1		
			If turnover <36/year, the factor = 1. If >36 then calculate Kn.		
Turnover factor	Kn	1	Per AP-42.		
Annual throughput, gals/yr	At	43000			
Vapor space expansion factor	Ke	0.04	AP-42, default value		
Vapor saturation factor	Ks	0.9986			
# of similar tanks		8	4 tanks per data center bldg		2
Standing Loss	Ls	1.01	lbs/yr (breathing and standing losses)		
Working Losses					
Vapor molecular weight:	Mw	130			
Vapor pressure, psia @ 70F	Vp	0.0065			
Throughput, bbl/yr	Q	1023.8			
Turnover factor	Kn	1			
Working loss product factor	Kp	1			
Working Loss	Lw	0.87	lbs/yr (tank filling and withdrawal losses)		
	Ls+Lw	1.87			
Engineering Uncertainty Factor		1.2			
Uncontrolled Total Tank Losses		2.24	lbs/yr each tank		
		17.96	lbs/yr all tanks		
Control System ?	No	0	control fraction		
System type, etc.	NA, no controls are required on #2 fuel oil storage tanks or delivery systems				3
Controlled Total Tank Losses		2.24	lbs/yr each tank		
		17.96	lbs/yr all tanks		
		0.009	TPY all tanks		
Note 1 - paint factor reduced due to tanks being inside the bldg on the ground floor not subject to ambient sunlight exposure.					
Note 2 - for conservativeness, thrupt increase 43000 gal/yr/tank					
Note 3 - these tanks are not exempt from BAAQMD permits per Reg 2 Rule 1, section 123.					
Air Toxics Emissions - Source: SJVUAPCD AB2588 Air Toxics Profiles (Profile 23 Diesel Fuel Storage)					
Toxic Pollutant	EF, lb/lb VOC	Emissions, lbs/yr (all tanks)		lbs/hr	
Benzene	0.00088	0.0158		1.80388E-06	
Toluene	0.00482	0.0866		9.88032E-06	
Xylenes	0.0042	0.0754		8.60941E-06	

Table AQ1-8 Fixed Roof Tank Emissions Estimates

Ref: AP-42, Section 7.1, 11/2006

			indicates input		
Standing Storage Losses				Comments	Note
Type of organic liquid:	#2 ULS Diesel				
Vapor molecular weight:	Mw	130	AP-42		
Vapor density, lbs/ft ³ :	Vd	0.00015243			
Liquid density, lbs/gal	DI	7.05	AP-42		
TVP, psia @ 60F	Vp	0.0065	AP-42 (consistent with Ta below)		
~ Tank diameter, ft.	D	8.25	equivalent dimemnsion for 4000 gals		
~ Tank height or length, ft.	H	10	equivalent dimemnsion for 4000 gals		
~ Tank capacity, gals	Tc	4000			
Avg vapor space height, ft.	Hv	2	annual avg value based on use versus tank refills		
Vapor space volume, ft ³	Vv	106.91			
Total tank volume, ft ³	Tv	535	Based on actual tank dimensions		
Avg Annual Temp, F	Ta	56.6	API Bulletin 2517, for SFO Airport		
Avg diurnal temp change, F	Tc	13.1	Avg max minus avg min.		
Paint factor	Pf	0.17	AP-42, Table 7.1-6, solar absorbance value		1
Product factor	Pd	1	Crude = 0.75, all others = 1		
Turnover factor	Kn	1	If turnover <36/year, the factor = 1. If >36 then calculate Kn.		
Annual throughput, gals/yr	At	3000	Per AP-42.		
Vapor space expansion factor	Ke	0.04	AP-42, default value		
Vapor saturation factor	Ks	0.9993			
# of similar tanks		4	equals 1 equivalent tank per engine		2
Standing Loss	Ls	0.24	lbs/yr (breathing and standing losses)		
Working Losses					
Vapor molecular weight:	Mw	130			
Vapor pressure, psia @ 70F	Vp	0.0065			
Throughput, bbl/yr	Q	71.4			
Turnover factor	Kn	1			
Working loss product factor	Kp	1			
Working Loss	Lw	0.06	lbs/yr (tank filling and withdrawal losses)		
	Ls+Lw	0.30			
Engineering Uncertainty Factor		1.2			
Uncontrolled Total Tank Losses		0.36	lbs/yr each tank		
		1.43	lbs/yr all tanks		
Control System ?	No	0	control fraction		
System type, etc.	NA, no controls are required on #2 fuel oil storage tanks or delivery systems				3
Controlled Total Tank Losses		0.36	lbs/yr each tank		
		1.43	lbs/yr all tanks		
		0.001	TPY all tanks		

Note 1 - paint factor for new tanks, painted white, etc.

Note 2 - for conservativeness, annual thruput increased from 2825 to 3000 gal/yr

Note 3 - these tanks are exempt form BAAQMD permits per Reg 2 Rule 1, section 123.

Air Toxics Emissions - Source: SJVUAPCD AB2588 Air Toxics Profiles (Profile 23 Diesel Fuel Storage)

Toxic Pollutant	EF, lb/lb VOC	Emissions, lbs/yr (all tanks)	lbs/hr
Benzene	0.00088	0.0013	1.44E-07
Toluene	0.00482	0.0069	7.87E-07
Xylenes	0.0042	0.0060	6.86E-07

Tables AQ1-9 through -11
Engine Emissions During the
Construction Overlap Period

[illegible]

Table AQ1-10 Emissions Estimates for Emergency Standby Generators

Engine Mfg:	Caterpillar	# of Units:	3	Max # of Engines Tested per Day:					1	# Redundant Engines:		0					
Model #:	C27	(engines are not tested concurrently)										# Emer Ops Engines:		3	Note 1		
Fuel:	ULSD	Engine Data										METRIC UNITS					
											Stk Flow,	Stack Vel,		Stk Temp,			
Fuel S, %wt:	0.0015		BHP	kWe	Load %	RPM	Fuel, gph	Stk Ht, ft	Stk Diam, in	Stk Temp, F	mmbtu/hr	ACFM	f/s	Stk Diam, m	Kelvins	Stk Vel, m/s	
Fuel wt, lb/gal:	7.05	Admin Units	1214	800	100	1800	56.5	60	18	952.5	7.85	6011.7	56.6988	0.4572	784.54	17.2818	
Btu/gal:	139000	Tank Units	1214	800	100	1800	56.5	14	18	952.5	7.85	6011.7	56.6988	0.4572	784.54	17.2818	
Lbs S/1000 gal:	0.10575																
Lbs SO2/1000 gal:	0.2115	(use 0.005 g/bhp-hr as default SO2 factor for all loads)															
EPA Tier:	4																
Control System:	SCR and Oxidation Catalyst + DPF to Meet T4																
Turbocharged:	Yes	Stack Exit Area (sq.ft) = 1.767146															
Aftercooled:	Yes																
			Emissions Factor Scenarios (all values in g/bhp-hr)								CO2e						
Scenarios			NOx	CO	VOC	SO2	PM10	PM2.5			lb/mmbtu						
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load			0.5	2.6	0.14	0.005	0.02	0.02			163.052						
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load			1.50	2.60	0.18	0.005	0.02	0.02			163.052						
Weighted EF Input and Calculation Data																	
0.25 hr Uncontrolled , using EPA T2 EFs, 100% Load, w/DPF			4.5	2.6	0.3					163.052							
0.75 hr Controlled, using Tier 4 EFs, 100% Load, w/DPF			0.5	2.6	0.14					163.052							
			Controlled Emissions Factor Scenarios (all values in g/bhp-hr)								CO2e						
			NOx	CO	VOC	SO2	PM10	PM2.5			lb/mmbtu						
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load			0.500	2.600	0.140	0.005	0.020	0.020			163.052						
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load			1.50	2.60	0.18	0.005	0.020	0.020			163.052						
Scenario 1: Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load																	
Max Hourly Runtime:	1																
Max Daily Runtime:	24																
Max Annual Runtime:	100																
			NOx	CO	VOC	SO2	PM10	PM2.5			CO2e						
		lbs/hr	1.338	6.959	0.375	0.013	0.054	0.054			na						
		lbs/day	32.117	167.009	8.993	0.321	1.285	1.285			na						
		TPY	0.067	0.348	0.019	0.001	0.003	0.003			64.0						
			All Engines														
			NOx	CO	VOC	SO2	PM10	PM2.5			CO2e						
		lbs/hr	4.01	20.88	1.12	0.04	0.16	0.16			na						
		lbs/day	96.35	501.03	26.98	0.96	3.85	3.85			na						
		TPY	0.20	1.04	0.06	0.002	0.008	0.008			192.08						
Scenario 2: Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load																	
Max Hourly Runtime:	1																
Max Daily Runtime:	1																
Max Annual Runtime:	50																
			NOx	CO	VOC	SO2	PM10	PM2.5			CO2e						
		lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054			na						
		lbs/day	4.015	6.959	0.482	0.013	0.054	0.054			na						
		TPY	0.100	0.174	0.012	0.0003	0.001	0.001			32.0						
			1 Engine														
			NOx	CO	VOC	SO2	PM10	PM2.5			CO2e						
		lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054			na						
		lbs/day	4.015	6.959	0.482	0.013	0.054	0.054			na						
			All Engines														
		TPY	0.30	0.52	0.04	0.001	0.004	0.004			96.04						
C27 BAAQMD 150 Hrs/Yr Emissions Totals, TPY:			NOx	CO	VOC	SO2	PM10	PM2.5			CO2e						
			0.502	1.566	0.092	0.0030	0.012	0.012			288.1						

Note 1: only 3 of the 4 C27 engines will be operational during the overlap period, i.e., 1 admin unit and 2 tank units.

Table AQ1-11 Emissions Estimates for Emergency Standby Generators[illegible]

Appendix AQ2

Equipment Specifications

Emissions Control Systems

Product Specifications for C175-16 Tier 4 Final (60 Hz)

Generator Set Specifications

Minimum Rating	2500 ekW
Maximum Rating	3100 ekW
Emissions/Fuel Strategy	U.S. EPA Certified
Voltage	480 to 13800 Volts
Frequency	60 Hz
Speed	1800 rpm
Duty Cycle	Standby, Mission Critical, Prime, Continuous

Engine Specifications

Engine Model	C175-16 SCAC, V-16, 4-Stroke Water-Cooled Diesel
Bore	6.89 in
Stroke	8.66 in
Displacement	5155.88 in ³
Compression Ratio	16:07:01
Aspiration	Turbo Aftercooled
Fuel System	EUI
Governor Type	ADEM™ A4

Performance Number: DM8455

Change Level: 14

SALES MODEL:	C175-16	COMBUSTION:	DIRECT INJECTION
BRAND:	CAT	ENGINE SPEED (RPM):	1,800
MACHINE SALES MODEL:		HERTZ:	60
ENGINE POWER (BHP):	4,376	ASPIRATION:	TA
GEN POWER W/O FAN (EKW):	3,100.0	AFTERCOOLER TYPE:	SCAC
COMPRESSION RATIO:	15.3	AFTERCOOLER CIRCUIT TYPE:	JW+OC+1AC, 2AC
RATING LEVEL:	STANDBY	AFTERCOOLER TEMP (F):	115
PUMP QUANTITY:	2	JACKET WATER TEMP (F):	210.2
FUEL TYPE:	DIESEL	TURBO CONFIGURATION:	PARALLEL
MANIFOLD TYPE:	DRY	TURBO QUANTITY:	4
GOVERNOR TYPE:	ADEM4	TURBOCHARGER MODEL:	GTB6251BN-48T-1.38
ELECTRONICS TYPE:	ADEM4	CERTIFICATION YEAR:	2008
CAMSHAFT TYPE:	STANDARD	CRANKCASE BLOWBY RATE (FT3/HR):	2,436.4
IGNITION TYPE:	CI	FUEL RATE (RATED RPM) NO LOAD (GAL/HR):	15.5
INJECTOR TYPE:	CR	PISTON SPD @ RATED ENG SPD (FT/MIN):	2,598.4
FUEL INJECTOR:	4439455		
REF EXH STACK DIAMETER (IN):	14		

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

General Performance Data

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)	ELEC SPEC FUEL CONSUMPTN (ESFC)	ISO ELEC SPEC FUEL CONSUMPTN (ESFC)
EKW	%	BHP	PSI	LB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR	LB/EKW-HR	LB/EKW-HR
3,100.0	100	4,376	373	0.339	0.331	209.0	204.0	0.478	0.467
2,790.0	90	3,938	335	0.338	0.330	187.6	183.1	0.477	0.466
2,480.0	80	3,501	298	0.341	0.333	168.5	164.5	0.482	0.470
2,325.0	75	3,282	279	0.347	0.338	160.4	156.6	0.489	0.478
2,170.0	70	3,063	261	0.355	0.346	153.2	149.6	0.501	0.489
1,860.0	60	2,626	224	0.376	0.368	139.4	136.0	0.531	0.519
1,550.0	50	2,188	186	0.402	0.393	124.1	121.1	0.568	0.554
1,240.0	40	1,750	149	0.424	0.414	104.6	102.1	0.599	0.584
930.0	30	1,313	112	0.448	0.438	83.0	81.0	0.633	0.618
775.0	25	1,094	93	0.463	0.452	71.4	69.7	0.653	0.638
620.0	20	875	75	0.481	0.470	59.4	58.0	0.680	0.663
310.0	10	438	37	0.551	0.538	34.0	33.2	0.778	0.760

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BHP	IN-HG	DEG F	DEG F	IN-HG	DEG F	IN-HG	DEG F
3,100.0	100	4,376	90.3	131.1	1,225.5	63.4	890.4	91	447.1
2,790.0	90	3,938	80.1	129.4	1,188.6	55.5	877.6	81	409.8
2,480.0	80	3,501	71.6	128.1	1,158.3	49.1	868.0	73	380.1
2,325.0	75	3,282	68.5	127.7	1,147.4	46.8	865.1	70	370.1
2,170.0	70	3,063	66.2	127.5	1,139.4	45.1	863.6	68	363.4
1,860.0	60	2,626	61.6	127.2	1,123.9	42.1	860.9	64	350.8
1,550.0	50	2,188	54.8	126.7	1,104.1	38.0	855.9	57	332.0
1,240.0	40	1,750	42.8	125.4	1,072.5	30.6	844.6	47	296.3
930.0	30	1,313	30.8	124.0	1,023.2	22.6	829.2	35	251.2
775.0	25	1,094	24.8	123.3	984.4	18.6	812.8	28	225.1
620.0	20	875	18.9	122.8	892.3	14.9	749.2	22	197.3
310.0	10	438	6.9	121.7	643.1	7.8	569.8	9	135.2

General Performance Data (Continued)

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	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)
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PERFORMANCE DATA[DM8455]

February 10, 2022

EKW	%	BHP	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
3,100.0	100	4,376	9,674.6	25,320.3	42,304.4	43,785.9	9,221.5	8,576.0
2,790.0	90	3,938	8,834.8	22,758.0	38,384.4	39,715.1	8,367.4	7,787.1
2,480.0	80	3,501	8,133.6	20,653.4	35,133.9	36,329.8	7,648.7	7,127.4
2,325.0	75	3,282	7,873.5	19,883.5	33,933.2	35,071.5	7,379.4	6,882.8
2,170.0	70	3,063	7,674.4	19,303.2	33,017.6	34,104.9	7,172.3	6,697.1
1,860.0	60	2,626	7,287.7	18,220.5	31,272.8	32,261.2	6,783.7	6,349.9
1,550.0	50	2,188	6,739.4	16,826.5	28,846.8	29,726.1	6,288.4	5,901.2
1,240.0	40	1,750	5,792.8	14,535.8	24,673.2	25,413.7	5,479.6	5,153.6
930.0	30	1,313	4,845.5	11,851.1	20,542.1	21,129.9	4,521.1	4,261.0
775.0	25	1,094	4,371.7	10,369.7	18,492.5	18,998.8	4,006.8	3,781.7
620.0	20	875	3,897.7	8,845.4	16,453.5	16,874.9	3,597.6	3,409.5
310.0	10	438	2,949.2	5,561.0	12,407.4	12,648.6	2,655.9	2,544.6

Heat Rejection Data

PUMP POWER IS INCLUDED IN HEAT REJECTION BALANCE, BUT IS NOT SHOWN.

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST 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
3,100.0	100	4,376	77,079	8,233	176,058	100,091	24,081	27,356	185,573	452,113	481,614
2,790.0	90	3,938	68,674	7,617	157,585	88,535	21,506	22,077	167,015	403,771	430,117
2,480.0	80	3,501	61,730	7,130	142,543	79,399	19,247	18,045	148,458	361,362	384,941
2,325.0	75	3,282	58,955	6,949	136,754	76,169	18,272	16,609	139,179	343,060	365,445
2,170.0	70	3,063	56,877	6,821	132,798	73,794	17,456	15,731	129,901	327,733	349,118
1,860.0	60	2,626	53,228	6,605	125,732	69,340	15,919	14,476	111,343	298,886	318,389
1,550.0	50	2,188	49,412	6,441	117,165	63,168	14,300	13,183	92,786	268,478	285,997
1,240.0	40	1,750	44,006	6,297	102,298	52,689	12,215	10,300	74,229	229,338	244,303
930.0	30	1,313	37,226	6,186	83,787	42,347	9,854	7,429	55,672	184,999	197,070
775.0	25	1,094	33,267	6,118	73,173	36,703	8,568	6,178	46,393	160,871	171,368
620.0	20	875	28,325	5,745	61,741	27,923	7,209	5,244	37,114	135,351	144,182
310.0	10	438	16,748	4,702	36,241	11,322	4,278	3,828	18,557	80,318	85,559

Sound Data

SOUND DATA REPRESENTATIVE OF NOISE PRODUCED BY THE "ENGINE ONLY"

EXHAUST:SOUND POWER(1/3 Octave Frequencies)

GENSET POWER WITHOUT 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)
3,100.0	100	4,376	134.4	109.7	115.8	113.6	115.4	115.8	118.8	119.7	121.4	120.2	121.0
2,790.0	90	3,938	133.1	110.4	116.2	112.4	114.1	114.3	117.1	118.2	119.8	118.1	119.2
2,480.0	80	3,501	131.8	111.9	116.7	110.7	112.5	112.8	115.3	116.7	118.2	116.2	117.4
2,325.0	75	3,282	131.1	112.7	116.9	109.8	111.6	112.0	114.5	115.9	117.3	115.3	116.4
2,170.0	70	3,063	130.5	113.5	117.2	108.9	110.7	111.3	113.6	115.2	116.4	114.4	115.5
1,860.0	60	2,626	129.2	115.1	117.7	107.1	109.0	109.8	111.9	113.7	114.7	112.6	113.6
1,550.0	50	2,188	127.9	116.8	118.2	105.3	107.3	108.4	110.2	112.3	113.0	110.7	111.7
1,240.0	40	1,750	126.6	118.4	118.7	103.5	105.6	106.9	108.4	110.8	111.3	108.9	109.8
930.0	30	1,313	125.3	120.0	119.2	101.7	103.9	105.4	106.7	109.3	109.5	107.1	107.9
775.0	25	1,094	124.6	120.8	119.5	100.8	103.0	104.7	105.8	108.6	108.7	106.2	106.9
620.0	20	875	124.0	121.6	119.7	99.9	102.1	103.9	105.0	107.8	107.8	105.3	106.0
310.0	10	438	122.7	123.2	120.3	98.1	100.4	102.5	103.2	106.4	106.1	103.4	104.1

EXHAUST:SOUND POWER(1/3 Octave Frequencies)

GENSET POWER	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
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PERFORMANCE DATA[DM8455]

February 10, 2022

WITHOUT FAN													
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	122.0	122.4	123.4	124.7	124.5	122.9	122.2	121.4	119.9	118.8	123.5
2,790.0	90	3,938	120.5	120.8	122.0	123.4	123.0	121.3	120.6	119.8	118.6	117.7	123.8
2,480.0	80	3,501	119.2	119.5	120.6	122.3	121.7	120.2	119.7	118.9	117.5	117.0	123.5
2,325.0	75	3,282	118.5	118.9	119.8	121.8	121.0	119.7	119.2	118.4	117.0	116.7	123.2
2,170.0	70	3,063	117.9	118.3	119.1	121.2	120.4	119.1	118.8	118.0	116.4	116.4	123.0
1,860.0	60	2,626	116.5	117.1	117.6	120.2	119.0	118.1	117.9	117.1	115.4	115.8	122.5
1,550.0	50	2,188	115.2	115.8	116.2	119.1	117.7	117.0	117.0	116.2	114.3	115.1	122.0
1,240.0	40	1,750	113.9	114.6	114.7	118.1	116.4	116.0	116.1	115.3	113.3	114.5	121.5
930.0	30	1,313	112.6	113.4	113.2	117.0	115.1	114.9	115.2	114.4	112.2	113.9	121.0
775.0	25	1,094	112.0	112.8	112.5	116.5	114.5	114.4	114.8	114.0	111.7	113.6	120.7
620.0	20	875	111.3	112.2	111.8	116.0	113.8	113.9	114.4	113.6	111.2	113.3	120.5
310.0	10	438	110.0	110.9	110.3	115.0	112.5	112.8	113.5	112.7	110.2	112.6	120.0

MECHANICAL:SOUND POWER(1/3 Octave Frequencies)

GENSET POWER WITHOUT 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)
3,100.0	100	4,376	125.9	89.8	105.6	98.3	100.7	104.3	108.4	111.5	113.2	112.5	114.1
2,790.0	90	3,938	125.8	89.3	105.5	97.9	100.9	103.2	108.7	111.1	112.6	112.2	113.7
2,480.0	80	3,501	126.0	88.9	104.9	97.8	99.6	102.3	107.8	111.0	111.6	111.8	112.9
2,325.0	75	3,282	126.1	88.7	104.5	97.8	98.8	101.9	107.3	111.0	111.1	111.7	112.5
2,170.0	70	3,063	126.3	88.5	104.2	97.8	98.0	101.5	106.8	111.0	110.6	111.5	112.0
1,860.0	60	2,626	126.5	88.0	103.5	97.8	96.5	100.7	105.8	111.0	109.5	111.1	111.2
1,550.0	50	2,188	126.8	87.6	102.8	97.8	95.0	99.9	104.8	111.0	108.5	110.8	110.3
1,240.0	40	1,750	127.0	87.2	102.2	97.7	93.5	99.2	103.8	110.9	107.5	110.5	109.5
930.0	30	1,313	127.3	86.7	101.5	97.7	92.0	98.4	102.8	110.9	106.5	110.1	108.6
775.0	25	1,094	127.4	86.5	101.1	97.7	91.2	98.0	102.3	110.9	105.9	109.9	108.2
620.0	20	875	127.5	86.3	100.8	97.7	90.5	97.6	101.8	110.9	105.4	109.8	107.8
310.0	10	438	127.8	85.9	100.1	97.7	89.0	96.8	100.8	110.9	104.4	109.4	106.9

MECHANICAL:SOUND POWER(1/3 Octave Frequencies)

GENSET POWER WITHOUT 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)
3,100.0	100	4,376	112.7	113.9	114.6	115.3	114.9	112.7	110.8	111.8	114.2	113.3	117.9
2,790.0	90	3,938	112.5	113.7	114.4	114.9	114.4	112.2	110.3	111.0	113.6	112.8	119.5
2,480.0	80	3,501	112.1	113.1	113.7	114.3	114.2	111.8	109.9	110.6	113.1	112.6	121.8
2,325.0	75	3,282	111.9	112.8	113.3	113.9	114.1	111.6	109.8	110.4	112.9	112.5	123.1
2,170.0	70	3,063	111.7	112.5	112.8	113.6	114.0	111.4	109.6	110.3	112.6	112.4	124.3
1,860.0	60	2,626	111.2	111.9	112.0	112.9	113.8	110.9	109.2	109.9	112.2	112.2	126.8
1,550.0	50	2,188	110.8	111.3	111.1	112.2	113.7	110.5	108.9	109.6	111.8	112.1	129.3
1,240.0	40	1,750	110.4	110.7	110.3	111.5	113.5	110.1	108.5	109.2	111.3	111.9	131.8
930.0	30	1,313	110.0	110.1	109.4	110.8	113.3	109.6	108.2	108.8	110.9	111.7	134.2
775.0	25	1,094	109.7	109.8	109.0	110.5	113.2	109.4	108.0	108.7	110.7	111.6	135.5
620.0	20	875	109.5	109.5	108.6	110.2	113.1	109.2	107.8	108.5	110.5	111.5	136.7
310.0	10	438	109.1	108.9	107.8	109.5	112.9	108.8	107.5	108.1	110.0	111.3	139.2

Emissions Data

DIESEL

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITHOUT FAN	EKW	3,100.0	2,790.0	2,325.0	1,550.0	775.0	310.0
PERCENT LOAD	%	100	90	75	50	25	10
ENGINE POWER	BHP	4,376	3,938	3,282	2,188	1,094	438
TOTAL NOX (AS	G/HR	26,403	22,877	17,130	7,010	2,936	2,988

PERFORMANCE DATA[DM8455]

February 10, 2022

NO2)							
TOTAL CO	G/HR	1,524	1,842	1,866	947	1,012	1,015
TOTAL HC	G/HR	179	143	147	279	284	248
TOTAL CO2	KG/HR	2,206	1,942	1,619	1,240	696	327
PART MATTER	G/HR	116.1	122.8	119.3	86.1	96.8	89.5
TOTAL NOX (AS NO2)	(CORR 5% O2) MG/NM3	3,107.8	3,068.3	2,704.7	1,443.3	1,095.5	2,281.7
TOTAL CO	(CORR 5% O2) MG/NM3	157.9	222.1	252.1	164.2	321.9	666.1
TOTAL HC	(CORR 5% O2) MG/NM3	15.2	13.1	17.6	43.3	78.1	141.4
PART MATTER	(CORR 5% O2) MG/NM3	10.3	12.5	14.0	13.4	27.5	54.3
TOTAL NOX (AS NO2)	(CORR 15% O2) MG/NM3	1,153.2	1,138.5	1,003.6	535.6	406.5	846.7
TOTAL CO	(CORR 15% O2) MG/NM3	58.6	82.4	93.6	60.9	119.5	247.2
TOTAL HC	(CORR 15% O2) MG/NM3	5.7	4.8	6.5	16.1	29.0	52.5
PART MATTER	(CORR 15% O2) MG/NM3	3.8	4.6	5.2	5.0	10.2	20.1
TOTAL NOX (AS NO2)	(CORR 5% O2) PPM	1,514	1,494	1,317	703	534	1,111
TOTAL CO	(CORR 5% O2) PPM	126	178	202	131	258	533
TOTAL HC	(CORR 5% O2) PPM	28	24	33	81	146	264
TOTAL NOX (AS NO2)	(CORR 15% O2) PPM	562	555	489	261	198	412
TOTAL CO	(CORR 15% O2) PPM	47	66	75	49	96	198
TOTAL HC	(CORR 15% O2) PPM	11	9	12	30	54	98
TOTAL NOX (AS NO2)	G/HP-HR	6.05	5.82	5.23	3.21	2.68	6.82
TOTAL CO	G/HP-HR	0.35	0.47	0.57	0.43	0.92	2.32
TOTAL HC	G/HP-HR	0.04	0.04	0.04	0.13	0.26	0.57
PART MATTER	G/HP-HR	0.03	0.03	0.04	0.04	0.09	0.20
TOTAL NOX (AS NO2)	G/KW-HR	8.23	7.92	7.11	4.36	3.65	9.27
TOTAL CO	G/KW-HR	0.48	0.64	0.77	0.59	1.26	3.15
TOTAL HC	G/KW-HR	0.06	0.05	0.06	0.17	0.35	0.77
PART MATTER	G/KW-HR	0.04	0.04	0.05	0.05	0.12	0.28
TOTAL NOX (AS NO2)	LB/HR	58.21	50.43	37.76	15.45	6.47	6.59
TOTAL CO	LB/HR	3.36	4.06	4.11	2.09	2.23	2.24
TOTAL HC	LB/HR	0.39	0.31	0.32	0.62	0.63	0.55
TOTAL CO2	LB/HR	4,863	4,281	3,570	2,735	1,535	720
PART MATTER	LB/HR	0.26	0.27	0.26	0.19	0.21	0.20
OXYGEN IN EXH	%	9.6	9.8	10.3	11.7	12.9	15.2
DRY SMOKE OPACITY	%	0.3	0.7	0.7	0.0	0.7	2.4
BOSCH SMOKE NUMBER		0.70	0.73	0.74	0.64	0.74	0.90

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITHOUT FAN	EKW	3,100.0	2,790.0	2,325.0	1,550.0	775.0	310.0
PERCENT LOAD	%	100	90	75	50	25	10
ENGINE POWER	BHP	4,376	3,938	3,282	2,188	1,094	438
TOTAL NOX (AS NO2)	G/HR	31,683	27,452	20,556	8,412	3,523	3,586
TOTAL CO	G/HR	2,743	3,316	3,359	1,704	1,822	1,827
TOTAL HC	G/HR	238	190	195	372	378	330
PART MATTER	G/HR	162.5	171.9	167.1	120.5	135.6	125.3
TOTAL NOX (AS NO2)	(CORR 5% O2) MG/NM3	3,729.4	3,681.9	3,245.7	1,732.0	1,314.5	2,738.0
TOTAL CO	(CORR 5% O2) MG/NM3	284.3	399.8	453.8	295.6	579.5	1,199.1
TOTAL HC	(CORR 5% O2) MG/NM3	20.3	17.4	23.4	57.6	103.9	188.1
PART MATTER	(CORR 5% O2) MG/NM3	14.4	17.5	19.7	18.8	38.6	76.0
TOTAL NOX (AS NO2)	(CORR 15% O2) MG/NM3	1,383.9	1,366.3	1,204.4	642.7	487.8	1,016.0
TOTAL CO	(CORR 15% O2) MG/NM3	105.5	148.3	168.4	109.7	215.0	444.9
TOTAL HC	(CORR 15% O2) MG/NM3	7.5	6.4	8.7	21.4	38.5	69.8
PART MATTER	(CORR 15% O2) MG/NM3	5.3	6.5	7.3	7.0	14.3	28.2
TOTAL NOX (AS NO2)	(CORR 5% O2) PPM	1,817	1,793	1,581	844	640	1,334
TOTAL CO	(CORR 5% O2) PPM	227	320	363	236	464	959
TOTAL HC	(CORR 5% O2) PPM	38	32	44	108	194	351
TOTAL NOX (AS NO2)	(CORR 15% O2) PPM	674	665	587	313	238	495
TOTAL CO	(CORR 15% O2) PPM	84	119	135	88	172	356
TOTAL HC	(CORR 15% O2) PPM	14	12	16	40	72	130
TOTAL NOX (AS NO2)	G/HP-HR	7.26	6.99	6.28	3.85	3.22	8.18
TOTAL CO	G/HP-HR	0.63	0.84	1.03	0.78	1.66	4.17

PERFORMANCE DATA[DM8455]

February 10, 2022

TOTAL HC	G/HP-HR	0.05	0.05	0.06	0.17	0.35	0.75
PART MATTER	G/HP-HR	0.04	0.04	0.05	0.06	0.12	0.29
TOTAL NOX (AS NO2)	G/KW-HR	9.87	9.50	8.53	5.23	4.38	11.13
TOTAL CO	G/KW-HR	0.86	1.15	1.39	1.06	2.26	5.67
TOTAL HC	G/KW-HR	0.07	0.07	0.08	0.23	0.47	1.03
PART MATTER	G/KW-HR	0.05	0.06	0.07	0.07	0.17	0.39
TOTAL NOX (AS NO2)	LB/HR	69.85	60.52	45.32	18.54	7.77	7.91
TOTAL CO	LB/HR	6.05	7.31	7.41	3.76	4.02	4.03
TOTAL HC	LB/HR	0.52	0.42	0.43	0.82	0.83	0.73
PART MATTER	LB/HR	0.36	0.38	0.37	0.27	0.30	0.28

Regulatory Information

EPA TIER 22006 - 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 STATIONARY2011 - ----				
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

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

STANDARD

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	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376
1,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376
2,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,355	4,376
3,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,309	4,216	4,376
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

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
0K9167	LL6027	3079788	GS265	-	WYB00620	
0K9167	LL6027	5683569	PG323	-	TB800100	
0K9167	LL6027	5717349	PG323	-	TB800100	

Performance Parameter Reference

Parameters Reference:DM9600-14

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.
On 3500 and C175 engines, at speeds below Peak Torque 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 temperature is 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

PERFORMANCE DATA[DM8455]

February 10, 2022

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
15 deg C (59 deg F), where the density is
850 G/Liter (7.0936 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.

EMISSION CYCLE LIMITS:

Cycle emissions Max Limits apply to cycle-weighted averages only.
Emissions at individual load points may exceed the cycle-weighted
limit.

WET & DRY EXHAUST/EMISSIONS DESCRIPTION:

Wet - Total exhaust flow or concentration of total exhaust flow

Dry - Total exhaust flow minus water vapor or concentration of exhaust
flow with water vapor excluded

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

PERFORMANCE DATA[DM8455]

February 10, 2022

On-Highway Truck : TM6038
SOUND DEFINITIONS:
Sound Power : DM8702
Sound Pressure : TM7080
Date Released : 10/27/21

PRODUCT SPECIFICATIONS FOR C27

Maximum Power	1150 HP
Maximum Torque	3876 lb-ft @ 1400 rpm
Rated Speed	1800-2100 rpm
Minimum Power	800 HP
Emissions	U.S. EPA Tier 2 Equivalent
Engine Configuration	V-12, 4-Stroke-Cycle Diesel
Bore	5.4 in
Stroke	6 in
Displacement	1649.5 in ³
Compression Ratio	16.5:1
Aspiration	Turbocharged Aftercooled (TA)
Combustion System	Direct Injection
Rotation from Flywheel End	Counterclockwise
Aftertreatment	-
Length	75.5 in

Width	57.6 in
Height	51.9 in
Weight - Net Dry - Basic Operating Engine Without Optional Attachments	6495 lb

C27 STANDARD EQUIPMENT

AIR INLET SYSTEM

Twin Turbocharged Aftercooled

Air-to-Air Aftercooled

CONTROL SYSTEM

Electronic governing, PTO speed control

Programmable ratings

Automatic altitude compensation

Power compensation for fuel temperature

Programmable low and high idle and total engine limit

Electronic diagnostics and fault logging

Engine monitoring system SAE J1939 broadcast and control

ADEM™ A4 Electronic Control Unit (ECU)

COOLING SYSTEM

Thermostats and housing, vertical outlet

Jacket water pump, centrifugal

Water pump, inlet

EXHAUST SYSTEM

Exhaust manifold, dry

Optional exhaust outlet

FLYWHEELS AND FLYWHEEL HOUSING

SAE No. 1 flywheel housing

FUEL SYSTEM

MEUI injection

Fuel filter, secondary (2 micron)

ACERT™ Technology

Fuel transfer pump

Fuel priming pump

LUBE SYSTEM

Crankcase breather

Oil cooler

Oil filler

Lube oil filter

Front sump oil pan

Oil dipstick

Gear driven oil pump

GENERAL

Vibration damper

Lifting eyes

Cold start capability to -20° C (-4° F)

Paint: Caterpillar yellow, with optional colors available at request

Performance Number: EM0451

Change Level: 00

SALES MODEL:	C27	COMBUSTION:	DIRECT INJECTION
BRAND:	CAT	ENGINE SPEED (RPM):	1,800
MACHINE SALES MODEL:		HERTZ:	60
ENGINE POWER (BHP):	1,214	FAN POWER (HP):	39.3
GEN POWER WITH FAN (EKW):	800.0	ADDITIONAL PARASITICS (HP):	52.2
COMPRESSION RATIO:	16.5	ASPIRATION:	TA
RATING LEVEL:	MISSION CRITICAL STANDBY	AFTERCOOLER TYPE:	ATAAC
PUMP QUANTITY:	1	AFTERCOOLER CIRCUIT TYPE:	JW+OC, ATAAC
FUEL TYPE:	DIESEL	INLET MANIFOLD AIR TEMP (F):	120
MANIFOLD TYPE:	DRY	JACKET WATER TEMP (F):	210.2
ELECTRONICS TYPE:	ADEM4	TURBO CONFIGURATION:	PARALLEL
IGNITION TYPE:	CI	TURBO QUANTITY:	2
INJECTOR TYPE:	EUI	TURBOCHARGER MODEL:	GTA5008BS-56T-1.60
REF EXH STACK DIAMETER (IN):	10	CERTIFICATION YEAR:	2010
MAX OPERATING ALTITUDE (FT):	7,999	PISTON SPD @ RATED ENG SPD (FT/MIN):	1,800.0

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

General Performance Data

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)
EKW	%	BHP	PSI	LB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR
800.0	100	1,214	324	0.330	0.323	56.5	55.2
720.0	90	1,100	294	0.334	0.326	51.9	50.6
640.0	80	988	264	0.339	0.330	47.2	46.0
600.0	75	932	249	0.341	0.333	44.8	43.7
560.0	70	876	234	0.342	0.334	42.3	41.3
480.0	60	765	204	0.344	0.336	37.1	36.3
400.0	50	654	175	0.346	0.338	31.9	31.1
320.0	40	545	145	0.349	0.340	26.8	26.2
240.0	30	436	116	0.355	0.346	21.8	21.3
200.0	25	380	101	0.359	0.351	19.3	18.8
160.0	20	324	86	0.366	0.358	16.7	16.3
80.0	10	210	56	0.402	0.392	11.9	11.6

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BHP	IN-HG	DEG F	DEG F	IN-HG	DEG F	IN-HG	DEG F
800.0	100	1,214	58.6	120.5	1,230.6	41.1	952.5	61	362.1
720.0	90	1,100	53.7	115.2	1,195.3	37.5	932.4	57	341.6
640.0	80	988	48.4	113.4	1,168.6	33.4	919.7	51	320.7
600.0	75	932	45.5	113.0	1,155.3	31.2	913.8	48	309.9
560.0	70	876	42.2	111.6	1,138.9	28.8	906.0	44	295.4
480.0	60	765	34.9	107.3	1,095.6	23.9	882.8	37	264.1
400.0	50	654	27.3	102.5	1,039.6	19.1	850.4	29	233.3
320.0	40	545	20.4	98.3	967.7	14.9	804.3	22	203.3
240.0	30	436	14.5	95.0	875.5	11.4	739.0	16	173.6
200.0	25	380	11.7	93.6	822.1	9.9	699.4	13	158.7
160.0	20	324	9.1	92.4	763.2	8.5	654.7	10	143.8
80.0	10	210	5.1	92.2	626.6	6.3	544.7	6	121.2

General Performance Data (Continued)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	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	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
800.0	100	1,214	2,216.4	6,011.7	9,543.1	9,944.2	2,093.1	1,894.9
720.0	90	1,100	2,124.9	5,659.3	9,125.9	9,493.8	1,998.8	1,815.5

PERFORMANCE DATA[EM0451]

March 11, 2022

640.0	80	988	2,001.3	5,260.8	8,572.1	8,906.9	1,875.2	1,707.1
600.0	75	932	1,930.4	5,042.0	8,257.4	8,575.1	1,805.0	1,645.1
560.0	70	876	1,851.1	4,797.3	7,907.3	8,207.3	1,727.2	1,576.0
480.0	60	765	1,678.1	4,260.9	7,148.0	7,411.6	1,560.5	1,427.2
400.0	50	654	1,497.7	3,697.0	6,361.6	6,588.0	1,387.5	1,272.0
320.0	40	545	1,329.0	3,157.0	5,630.4	5,820.5	1,228.0	1,129.6
240.0	30	436	1,175.4	2,643.8	4,970.3	5,124.7	1,084.4	1,003.3
200.0	25	380	1,102.8	2,392.1	4,660.7	4,797.2	1,014.7	942.2
160.0	20	324	1,032.8	2,142.5	4,363.5	4,482.1	945.3	881.3
80.0	10	210	926.9	1,716.6	3,911.4	3,995.6	840.3	792.1

Heat Rejection Data

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 350F	FROM OIL COOLER	FROM 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
800.0	100	1,214	18,785	6,240	45,257	25,637	6,549	9,235	51,468	122,961	130,984
720.0	90	1,100	18,137	5,061	42,000	23,586	6,007	8,276	46,664	112,779	120,138
640.0	80	988	17,141	4,437	38,642	21,600	5,462	7,119	41,902	102,550	109,241
600.0	75	932	16,243	4,573	36,868	20,559	5,186	6,513	39,533	97,376	103,729
560.0	70	876	15,133	4,950	34,899	19,383	4,898	5,822	37,162	91,965	97,965
480.0	60	765	13,933	4,599	30,563	16,728	4,301	4,488	32,445	80,759	86,028
400.0	50	654	12,297	4,489	26,024	13,914	3,694	3,331	27,748	69,364	73,890
320.0	40	545	10,665	4,336	21,575	11,109	3,103	2,367	23,120	58,261	62,063
240.0	30	436	9,960	3,213	17,222	8,311	2,521	1,564	18,469	47,340	50,429
200.0	25	380	9,576	2,592	15,113	6,955	2,231	1,215	16,122	41,885	44,618
160.0	20	324	9,057	2,021	13,057	5,639	1,939	898	13,745	36,402	38,778
80.0	10	210	7,177	1,693	9,288	3,167	1,375	455	8,885	25,814	27,498

Emissions Data

DIESEL

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN		EKW	800.0	600.0	400.0	200.0	80.0
PERCENT LOAD		%	100	75	50	25	10
ENGINE POWER		BHP	1,214	932	654	380	210
TOTAL NOX (AS NO2)		G/HR	6,233	3,725	2,368	1,644	1,036
TOTAL CO		G/HR	276	344	337	275	303
TOTAL HC		G/HR	35	44	48	37	45
TOTAL CO2		KG/HR	563	445	315	188	116
PART MATTER		G/HR	28.4	26.7	44.2	51.1	52.3
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,580.0	1,962.4	1,776.1	2,170.4	2,154.4
TOTAL CO	(CORR 5% O2)	MG/NM3	115.1	183.6	258.3	383.5	733.8
TOTAL HC	(CORR 5% O2)	MG/NM3	12.5	20.6	31.3	46.5	96.9
PART MATTER	(CORR 5% O2)	MG/NM3	9.7	11.8	28.3	58.2	107.7
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,257	956	865	1,057	1,049
TOTAL CO	(CORR 5% O2)	PPM	92	147	207	307	587
TOTAL HC	(CORR 5% O2)	PPM	23	38	58	87	181
TOTAL NOX (AS NO2)		G/HP-HR	5.18	4.02	3.63	4.34	4.96
TOTAL CO		G/HP-HR	0.23	0.37	0.52	0.72	1.45
TOTAL HC		G/HP-HR	0.03	0.05	0.07	0.10	0.22
PART MATTER		G/HP-HR	0.02	0.03	0.07	0.13	0.25
TOTAL NOX (AS NO2)		LB/HR	13.74	8.21	5.22	3.62	2.28
TOTAL CO		LB/HR	0.61	0.76	0.74	0.61	0.67
TOTAL HC		LB/HR	0.08	0.10	0.11	0.08	0.10
TOTAL CO2		LB/HR	1,240	982	694	414	255
PART MATTER		LB/HR	0.06	0.06	0.10	0.11	0.12
OXYGEN IN EXH		%	8.9	10.0	11.1	13.1	15.4
DRY SMOKE OPACITY		%	0.2	1.1	2.6	4.3	5.3
BOSCH SMOKE			0.14	0.39	0.96	1.51	1.69

NUMBER

Regulatory Information

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

STANDARD

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	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214
1,000	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214
2,000	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214
3,000	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214
4,000	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214
5,000	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214
6,000	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,197	1,177	1,214
7,000	1,214	1,214	1,214	1,214	1,214	1,214	1,214	1,212	1,191	1,170	1,150	1,131	1,214
8,000	1,214	1,214	1,214	1,214	1,214	1,207	1,185	1,164	1,144	1,124	1,105	1,086	1,214
9,000	1,214	1,214	1,214	1,204	1,181	1,159	1,138	1,118	1,098	1,079	1,061	1,043	1,214
10,000	1,214	1,202	1,178	1,155	1,134	1,113	1,092	1,073	1,054	1,036	1,018	1,001	1,195
11,000	1,176	1,153	1,130	1,109	1,088	1,067	1,048	1,029	1,011	994	977	961	1,154
12,000	1,128	1,106	1,084	1,063	1,043	1,024	1,005	987	970	953	937	921	1,115
13,000	1,082	1,060	1,039	1,019	1,000	981	964	946	930	914	898	883	1,077
14,000	1,036	1,016	996	977	958	940	923	907	891	876	861	846	1,039
15,000	993	973	954	935	918	901	884	869	853	839	824	811	1,003

Cross Reference

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
0K4319	GG0780	3495619	GS603	-	MJE00001	
0K4319	GG0780	3884919	GS603	-	MJE00001	
0K4319	GG0780	6034727	PG458	-	MJE00001	

Performance Parameter Reference

Parameters Reference:DM9600-14
PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600
APPLICATION:

PERFORMANCE DATA[EM0451]

March 11, 2022

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.

On 3500 and C175 engines, at speeds below Peak Torque 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 temperature is 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

15 deg C (59 deg F), where the density is

850 G/Liter (7.0936 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

PERFORMANCE DATA[EM0451]

March 11, 2022

pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel output 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.

EMISSION CYCLE LIMITS:

Cycle emissions Max Limits apply to cycle-weighted averages only. Emissions at individual load points may exceed the cycle-weighted limit.

WET & DRY EXHAUST/EMISSIONS DESCRIPTION:

Wet - Total exhaust flow or concentration of total exhaust flow

Dry - Total exhaust flow minus water vapor or concentration of exhaust flow with water vapor excluded

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 : 10/27/21

Job/Project:	Representative:		
ESP-Systemwize: WIZE-976CB292 Created On: 04/25/2024	Phone:		
Location/Tag:	Email:		
Engineer:	Submitted By:	Date:	
Contractor:	Approved By:	Date:	

Split Case Fire Pump

Pump Model: 8x6x12 F-S
Nom. Speed: 2350 rpm
Market: Listed Fire Pump
Approval/Listing: FM/UL

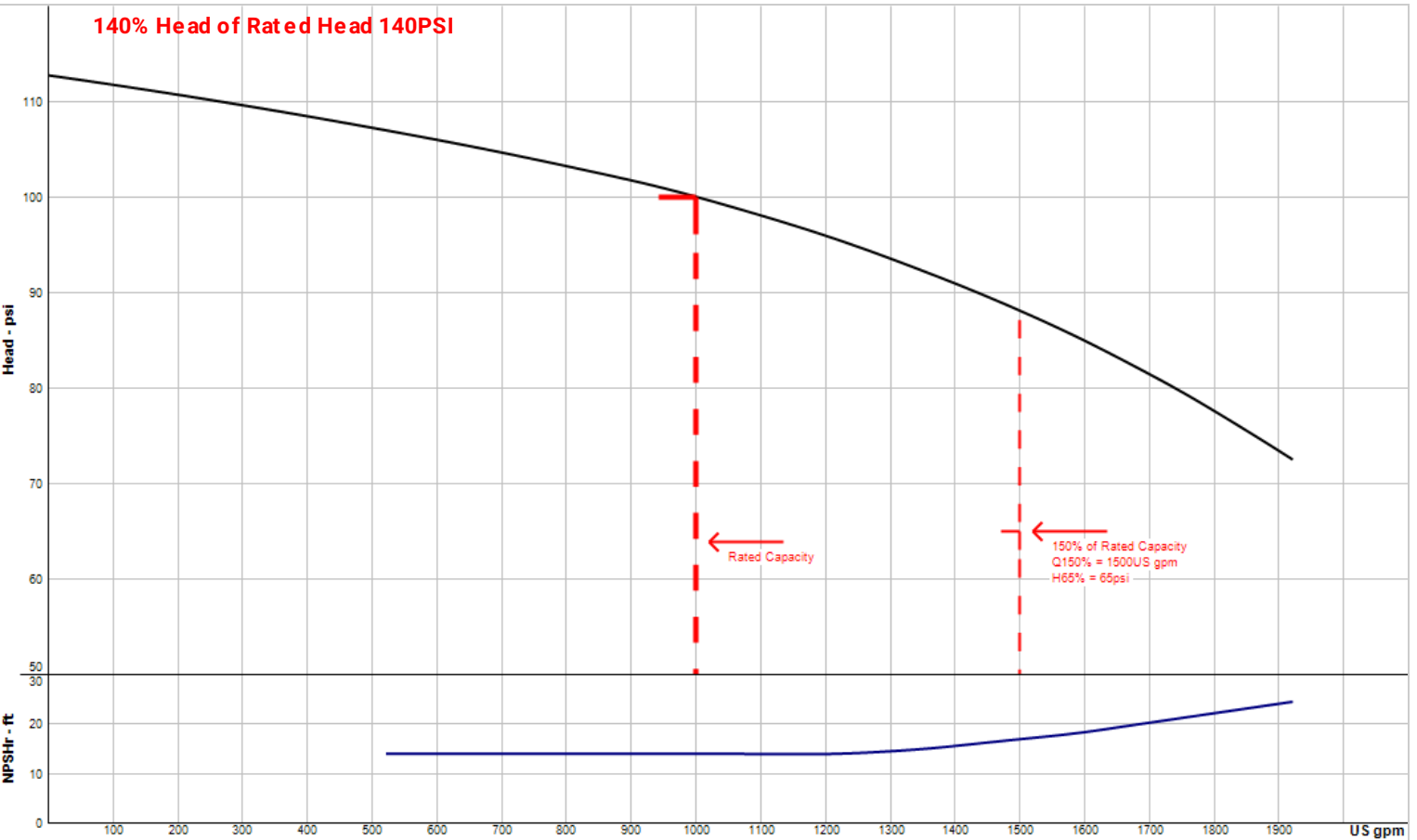


Selection Criteria

Rated Flow	1000 US gpm
Rated Head	100 psi
Imp. Dia	12.018 in
Power Required at Duty	79 hp
Rated Efficiency	73.7 %
Fluid	Water
Temperature	85 °F
Sp. Gravity	1.000

NFPA Limits

140% Head of Rated Head	140 psi
65% Head at 150% Flow	67.6 psi
Flow at 150%	1500 US gpm
Head at 150%	88.1 psi
Power Req at 150%	93.7 hp
Efficiency at 150%	82.2 %
Max BHP	101 hp
Closed Valve Head	113 psi



Typical Performance Curve is shown. Fire Pumps are tested to ANSI/HI 14.6 acceptance grade 1U.

Rated Duty Point is guaranteed within the following tolerances: Flow 0% to + 10%, Head 0% to + 6%.

NO OTHER POINTS ARE GUARANTEED. PLEASE CONSULT FACTORY IF NEEDED.

Performance Curve Data

Flow (US gpm)	Head (psi)	Efficiency (%)	Power Required (hp)	NPSHr (ft)
0	113	0	0	14
250	110	42	46.4	14
500	107	54	58.2	14
750	104	65.5	69.3	14
1000	100	73.7	79	14
1500	88.1	82.2	93.7	17
1921	72.5	80	101	24.5

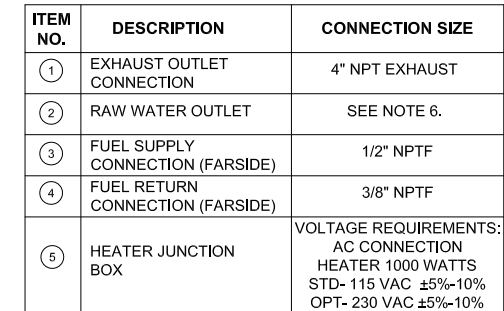
AC FIRE PUMP
a xylem brand

- [illegible]

Technical drawing of the front view of a 1000 Series Diesel Engine. The drawing shows the engine block, cylinder head, and various components with dimensions in inches. Key dimensions include:

- Overall width: 35.32
- Distance from centerline to the front of the cylinder head: 30.88
- Distance from centerline to the front of the engine block: 20.52
- Distance from centerline to the front of the cooling loop: 45.23
- Distance from centerline to the front of the fuel pump centerline: 23.88
- Distance from centerline to the front of the cooling loop: 14.33
- Distance from centerline to the front of the cooling loop: 11.65
- Distance from centerline to the front of the cooling loop: 6.68
- Distance from centerline to the front of the cooling loop: 19.58
- Distance from centerline to the front of the cooling loop: 21.57
- Distance from centerline to the front of the cooling loop: 6.00
- Distance from centerline to the front of the cooling loop: 6.00

The drawing also includes labels for "FUEL PUMP CENTERLINE", "COOLING LOOP", and "6.00 CHANNEL". Section lines A-A and B-B are indicated. Dimensions are given in inches.



- | PUMP
TYPE | PUMP SIZE | | DIMENSIONS | | | | | | | | | | | |
|--------------|-----------|--------|------------|----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | SUCT. | DISCH. | A | B | H | E | M | W | CP | D | YY | X | S | Z |
| 6x4x12 F | 6 | 4 | 78 | 34 | 21 | 12.50 | 13.25 | 17.50 | 30.75 | 12.00 | 13.00 | 11.50 | 7.75 | 7.75 |
| 8X6X12 F | 8 | 6 | 78 | 34 | 24 | 12.50 | 13.25 | 17.50 | 30.75 | 14.00 | 14.00 | 14.00 | 9.00 | 9.00 |
| 8X6X13 F | 8 | 6 | 88 | 39 | 23 | 18.75 | 15.62 | 21.25 | 36.87 | 12.75 | 15.50 | 13.00 | 8.00 | 8.00 |
| 8X6X18 F | 8 | 6 | 88 | 39 | 24 | 18.75 | 15.62 | 21.25 | 36.87 | 14.00 | 16.00 | 14.00 | 9.00 | 9.00 |
| 8X8X12 F | 8 | 8 | 88 | 39 | 23 | 18.75 | 15.62 | 21.25 | 36.87 | 12.75 | 16.50 | 14.00 | 8.00 | 8.00 |
| 8X8X17 F | 8 | 8 | 88 | 39 | 24 | 17.44 | 17.00 | 22.56 | 39.56 | 14.50 | 16.50 | 15.00 | 9.50 | 9.50 |
| 10X8X17 F | 10 | 8 | 88 | 39 | 26 | 17.44 | 17.00 | 22.56 | 39.56 | 16.00 | 18.00 | 16.00 | 10.00 | 10.00 |
| 10X8X20 F | 10 | 8 | 88 | 39 | 30 | 17.44 | 17.00 | 22.56 | 39.56 | 20.00 | 20.00 | 18.00 | 14.00 | 14.00 |

NOT FOR CONSTRUCTION, INSTALLATION OR APPLICATION PURPOSES UNLESS CERTIFIED.												
CERTIFIED FOR:								APPROVAL		UL	FM	ULC
								☐	☐	☐	☐	
CUSTOMER ORDER NO:				IDENTIFICATION NO:				FLANGES				
PUMP DATA	SIZE	MODEL	CURVE NO.	GPM	HEAD (FT.)	ROTATION	SUCTION	DISCHARGE				
						CW						
ENGINE DATA	MAKE	MODEL	HP	RPM	VOLTAGE	POLARITY	MAX ALTITUDE					
	CLARKE					NEG.						
SHOP ORDER:			CERTIFIED BY:			TOTAL WEIGHT		DATE:				



Rating Specific Emissions Data

Nameplate Rating Information

Clarke Model	JU4H-UFAD5G
Power Rating (BHP/kW)	118/88
Certified Speed (RPM)	2350

Refer to **Rating Data** section on page 2 for emissions output values

Rating Specific Emissions Data - John Deere Power Systems



Rating Data

Rating	4045HFC28C	
Certified Power(kW)	104	
Rated Speed	2350	
Vehicle Model Number	OEM (Clarke Fire Pump-Emergency)	
Units	g/kW-hr	g/hp-hr
NO _x	3.25	2.42
HC	0.20	0.15
NO _x + HC	N/A	N/A
Pm	0.20	0.15
CO	2.0	1.5

Certificate Data

Engine Model Year	2024
EPA Family Name	RJDXL04.5119
EPA JD Name	350HAJ
EPA Certificate Number	RJDXL04.5119-005
CARB Executive Order	
Parent of Family	4045HFG82A
Units	g/kW-hr
NO _x	3.36
HC	0.15
NO _x + HC	N/A
Pm	0.17
CO	1.3

* The emission data listed is measured from a laboratory test engine according to the test procedures of 40 CFR 89 or 40 CFR 1039, as applicable. The test engine is intended to represent nominal production hardware, and we do not guarantee that every production engine will have identical test results. The family parent data represents multiple ratings and this data may have been collected at a different engine speed and load. Emission results may vary due to engine manufacturing tolerances, engine operating conditions, fuels used, or other conditions beyond our control.

This information is property of Deere & Company. It is provided solely for the purpose of obtaining certification or permits of Deere powered equipment. Unauthorized distribution of this information is prohibited.

Emissions Results by Rating run on Jan-17-2024

Appendix AQ3
Air Quality Modeling
Support Data

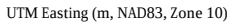
Building Heights, Source Locations, Fence Line



Structure heights are in meters

- Source Location

Crossover Modeling Source Locations



- Construction point and area source locations
- Operational source locations

Revised Table AQ3-1: Measured Ambient Air Quality Concentrations by Year

[illegible]

Revised Table AQ3-2: Background Air Quality Data Summary

Pollutant and Averaging Time	AQ Data Value	Units	Background Value (µg/m³)
Ozone – 1-hour Maximum CAAQS	0.098	ppm	192.4
Ozone – 8-hour Maximum CAAQS	0.084	ppm	164.9
Ozone – 3-year average 4 th High NAAQS	0.064	ppm	141.4
PM10 – 24-hour Maximum CAAQS	134	µg/m ³	134
PM10 - 24-hour 3-year 4 th High NAAQS	41	µg/m ³	41
PM10 – Annual Maximum CAAQS	24.8	µg/m ³	24.8
PM2.5 – 3-Year Average of Annual 24-hour 98 th Percentiles NAAQS	25.7	µg/m ³	25.7
PM2.5 – Annual Maximum CAAQS	10.1	µg/m ³	10.1
PM2.5 - 3-Year Average of Annual Values NAAQS	9.1	µg/m ³	9.1
CO – 1-hour Maximum CAAQS	1.9	ppm	2175
CO - 1-hour High, 2 nd High NAAQS	1.6	ppm	1832
CO – 8-hour Maximum CAAQS	1.5	ppm	1718
CO - 8-hour High, 2 nd High NAAQS	1.3	ppm	1603
NO ₂ – 1-hour Maximum CAAQS	59	ppb	111
NO ₂ - 3-Year Average of Annual 98 th Percentile 1-hour Daily Maxima NAAQS	42.3	ppb	80
NO ₂ – Annual Maximum CAAQS/NAAQS	9.46	ppb	17.8
SO ₂ – 1-hour Maximum CAAQS	35.7	ppb	93.4
SO ₂ - 3-Year Average of Annual 99 th Percentile 1-hour Daily Maxima NAAQS	2	ppb	5.2
SO ₂ – 3-hour Maximum NAAQS (Not Available - Used 1-hour Maxima)	35.7	ppb	93.4
SO ₂ – 24-hour Maximum CAAQS	1.9	ppb	5
SO ₂ - 24-hour High, 2 nd High NAAQS	0.9	ppb	1.6
SO ₂ – Annual Maximum NAAQS	0.22	ppb	0.6
Values for 158 East Jackson Street, San Jose, CA, the nearest BAAQMD monitoring site (all applicable pollutants measured). CARB data used for AAM for PM10 for the period 2020-2022. Conversion of ppm/ppb measurements to µg/m³ concentrations based on: µg/m³ = ppm x 40.9 x MW, where MW = 48, 28, 46, and 64 for ozone, CO, NO₂, and SO₂, respectively.			

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: Ozone

Year: 2021

Exceptional Events: Excluded (if any)

First Max 8hr	Second Max 8hr	Third Max 8hr	Fourth Max 8hr	Days 8hr Max >STD	Required Days 8hr	Valid Days 8hr	Percent Days 8hr	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Est Days 1hr Max >STD	Required Days 1hr	Valid Days 1hr	Missing Days 1hr	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
0.072	0.067	0.065	0.065	1	365	363	99	0.084	0.078	0	0	365	365	0	None	1	060850002	9th & Princeville	Gilroy	Santa Clara	CA	09
0.084	0.079	0.072	0.072	4	365	358	98	0.098	0.097	0	0	365	358	5	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
0.083	0.075	0.071	0.069	3	365	362	99	0.09	0.09	0	0	365	363	2	None	1	060851001	306 University Ave.	Los Gatos	Santa Clara	CA	09
0.079	0.079	0.075	0.074	6	365	352	96	0.102	0.091	0	0	365	353	8	None	1	060852006	13030 Murphy Ave.	San Martin	Santa Clara	CA	09

Attachment AQ3-1
Air Quality Data

Get detailed information about this report, including column descriptions, at <https://www.epa.gov/outdoor-air-quality-data/about-air-data-reports#mon>

AirData reports are produced from a direct query of the AQS Data Mart. The data represent the best and most recent information available to EPA from state agencies. However, some values may be absent due to incomplete reporting, and some values may change due to quality assurance activities. The AQS database is updated by state, local, and tribal organizations who own and submit the data.

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: Ozone

Year: 2022

Exceptional Events: Excluded (if any)

First Max 8hr	Second Max 8hr	Third Max 8hr	Fourth Max 8hr	Days 8hr Max >STD	Required Days 8hr	Valid Days 8hr	Percent Days 8hr	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Est Days 1hr Max >STD	Required Days 1hr	Valid Days 1hr	Missing Days 1hr	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
0.071	0.064	0.063	0.063	1	365	360	99	0.079	0.078	0	0	365	363	2	None	1	060850002	9th & Princeville	Gilroy	Santa Clara	CA	09
0.074	0.067	0.066	0.062	1	365	354	97	0.09	0.088	0	0	365	357	4	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
0.069	0.066	0.064	0.062	0	365	352	96	0.08	0.077	0	0	365	356	1	None	1	060851001	306 University Ave.	Los Gatos	Santa Clara	CA	09
0.076	0.074	0.067	0.066	2	365	362	99	0.122	0.085	0	0	365	364	1	None	1	060852006	13030 Murphy Ave.	San Martin	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: Ozone

Year: 2023

Exceptional Events: Excluded (if any)

First Max 8hr	Second Max 8hr	Third Max 8hr	Fourth Max 8hr	Days 8hr Max >STD	Required Days 8hr	Valid Days 8hr	Percent Days 8hr	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Est Days 1hr Max >STD	Required Days 1hr	Valid Days 1hr	Missing Days 1hr	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
0.071	0.068	0.057	0.056	1	365	359	98	0.083	0.081	0	0	365	362	0	None	1	060850002	9th & Princeville	Gilroy	Santa Clara	CA	09
0.068	0.067	0.06	0.059	0	365	357	98	0.087	0.087	0	0	365	355	6	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
0.055	0.054	0.053	0.05	0	365	267	73	0.066	0.065	0	0	365	272	9	None	1	060851001	306 University Ave.	Los Gatos	Santa Clara	CA	09
0.079	0.074	0.072	0.067	3	365	350	96	0.091	0.085	0	0	365	351	5	None	1	060852006	13030 Murphy Ave.	San Martin	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: NO2

Year: 2021

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs	First Max 1hr	Second Max 1hr	98th Percentile	Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7940	47	46	39	8.73	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
8347	49	48	39	12.18	None	1	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

Get detailed information about this report, including column descriptions, at <https://www.epa.gov/outdoor-air-quality-data/about-air-data-reports#mon>

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: NO2

Year: 2022

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs	First Max 1hr	Second Max 1hr	98th Percentile	Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7942	47	47	44	9.46	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
8236	51	48	42	13.35	None	1	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: NO2

Year: 2023

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs	First Max 1hr	Second Max 1hr	98th Percentile	Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7887	59	53	44	9.28	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
8231	58	48	43	12.53	None	1	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

Get detailed information about this report, including column descriptions, at <https://www.epa.gov/outdoor-air-quality-data/about-air-data-reports#mon>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: CO

Year: 2021

Exceptional Events: Excluded (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7930	1.5	1.3	0	1.7	1.6	0	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
8339	1.5	1.4	0	1.9	1.8	0	None	1	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

Get detailed information about this report, including column descriptions, at <https://www.epa.gov/outdoor-air-quality-data/about-air-data-reports#mon>

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: CO

Year: 2022

Exceptional Events: Excluded (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7863	1.4	1.3	0	1.7	1.5	0	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
8331	1.5	1.5	0	1.8	1.8	0	None	1	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: CO

Year: 2023

Exceptional Events: Excluded (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7879	1.4	1.4	0	1.9	1.6	0	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
7993	1.4	1.3	0	2.2	1.9	0	None	1	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: SO2

Year: 2021

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs 1hr	First Max 1hr	Second Max 1hr	99th Percentile	Obs 24hr	First Max 24hr	Second Max 24hr	Days >STD	Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7580	1.8	1.8	2	357	0.7	0.5	0	0.17	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: SO2

Year: 2022

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs 1hr	First Max 1hr	Second Max 1hr	99th Percentile	Obs 24hr	First Max 24hr	Second Max 24hr	Days >STD	Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7543	2	1.7	2	355	0.9	0.6	0	0.22	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: SO2

Year: 2023

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs 1hr	First Max 1hr	Second Max 1hr	99th Percentile	Obs 24hr	First Max 24hr	Second Max 24hr	Days >STD	Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7498	35.7	2.1	2	349	1.9	0.5	0	0.09	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: PM10

Year: 2020

Exceptional Events: Excluded (if any)

Required Days	Valid Days	First Max	Second Max	Days >STD	Est Days >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
61	56	134	91	0	0	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09

3yr 4th High
134
91
42
(41)

NO 2023
DATA

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: PM10

Year: 2021

Exceptional Events: Excluded (if any)

Required Days	Valid Days	First Max	Second Max	Days >STD	Est Days >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
61	61	42	41	0	0	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: PM10

Year: 2022

Exceptional Events: Excluded (if any)

Required Days	Valid Days	First Max	Second Max	Days >STD	Est Days >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
61	59	41	41	0	0	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: PM2.5

Year: 2021

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
363	34.7	17.2	16.6	15.7	14	5.5	None	3	060850002	9th & Princeville	Gilroy	Santa Clara	CA	09
122	31.6	26.5	26.3	23.9	26	8.8	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
360	38.1	30.2	28	26.9	23	8.9	None	3	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
363	45	33.6	27.1	26.9	25	10.9	None	3	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: PM2.5

Year: 2022

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
340	23.4	18.5	18	17.2	16	7.0*	None	3	060850002	9th & Princeville	Gilroy	Santa Clara	CA	09
120	32.9	31	28.3	27.8	28	9.7	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
365	36.2	36	30.8	29.5	27	10.1	None	3	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
358	34.7	31.9	31.5	30.5	26	8.8	None	3	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

Monitor Values Report

Geographic Area: Santa Clara County, CA

Pollutant: PM2.5

Year: 2023

Exceptional Events: Excluded (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
356	41.2	29.1	25.7	20.5	13	4.7	None	3	060850002	9th & Princeville	Gilroy	Santa Clara	CA	09
117	28.6	24.3	23.7	20.7	24	7.6	None	1	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
350	49	33.5	32.9	28.8	27	8.2	None	3	060850005	158b Jackson St	San Jose	Santa Clara	CA	09
353	46.2	33	30.9	28	25	6.9	None	3	060850006	1007 Knox Ave	San Jose	Santa Clara	CA	09

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Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 16, 2024

...op 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at San Jose-Jackson Street

ADAM

	2020		2021		2022	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Sep 12	134.9	Dec 3	42.8	Jan 17	41.1
Second High:	Aug 19	91.0	Jun 18	41.4	Dec 19	41.1
Third High:	Sep 9	58.0	Nov 30	39.3	Feb 4	40.0
Fourth High:	Dec 5	58.0	Nov 15	36.1	Dec 22	39.9
California:						
First High:	Sep 12	137.1	Dec 3	45.1	Dec 19	44.5
Second High:	Aug 19	90.8	Nov 30	41.2	Jan 17	43.2
Third High:	Dec 5	61.8	Jun 18	41.0	Feb 4	42.6
Fourth High:	Sep 9	59.5	Nov 15	37.8	Dec 22	42.5
National:						
Estimated # Days > 24-Hr Std:	0.0		0.0		0.0	
Measured # Days > 24-Hr Std:	0		0		0	
3-Yr Avg Est # Days > 24- Hr Std:	0.0		0.0		0.0	
Annual Average:	24.6		19.6		20.5	
3-Year Average:	21		21		22	
California:						
Estimated # Days > 24-Hr Std:	*		0.0		0.0	
Measured # Days > 24-Hr Std:	10		0		0	
Annual Average:	*		20.1		21.3	
3-Year Maximum Annual Average:	23		20		21	
Year Coverage:	99		100		100	

Notes:

Appendix AQ4

Construction Support Data

Table AQ4-1 Air Quality Construction Support Data

Project Name:		Microsoft Data Center SJC04/06							
	See Equipment Type TAB for type, horsepower and load factor		Phased Construction						
								21.25	Project Site area (acres) or approx. 925,650 sq.ft.
	Electrical Substation Area	75000	~ sq.ft.	SJC04				SJC04	Construction area: 678290 sq.ft.
	Water Storage Area	40000	~ sq.ft.	SJC04				SJC06	Construction Area: 274360 sq.ft.
	Tank Support Bldg Space	2465	~ sq.ft.	SJC04					Employees and Operational Year
	SJC04 Data Center Space	308,300	~ sq.ft.	SJC04				SJC04 = 72	Ops Yr: 2028 MW req'd: 48
	SJC06 Data Center Space	308,300	~ sq.ft.	SJC06				SJC06 = 72	Ops Yr: 2030 MW req'd: 48
	SJC04 Parking lot / internal and external access space	98,000	~ sq.ft.	70	spaces			Other:	Ops Yr: N/A
	SJC06 Parking lot / internal and external access space	98,000	~ sq.ft.	62	spaces				Ops Visitors/day: SJC04/06 = 8
	Construction Days and Hours (Monday-Friday)	7:00	am to	5:00	pm				Ops site deliveries per day: SJC04/06 = 6
	All construction start dates and phase dates are tentative and are the Applicants best estimates.								Total OPs round trips/day: Employees = 144, Visitors = 8, Deliveries = 6 (see Ops note 5 below) 79 RT per day per phase.
Quantity	Phase Descriptions	HP	Load Factor	Use Rates Hours/day (2)	EQ Use Days	Est. Use Hrs/day	Phase Hours	Comments	
	Demolition (none for SJC04)	Start Date:		Total phase days:	0	Each		Overall Import/Export Volumes	
		End Date:				Piece		Demolition Volume	
								Square footage of buildings to be demolished	
0	Concrete/Industrial Saws	81	0.73	8	0	#DIV/0!	#DIV/0!	(or total tons to be hauled)	
0	Excavators	158	0.38	8	0	#DIV/0!	#DIV/0!	0 square feet or	
0	Rubber-Tired Dozers	247	0.4	8	0	#DIV/0!	#DIV/0!		
0	Tractors/Loaders/Backhoes	97	0.37	8	0	#DIV/0!	#DIV/0!		
0	Water Truck	172	0.42	8	0	#DIV/0!	#DIV/0!		
0									
	Demolition (none for SJC06)	Start Date:		Total phase days:	0			Overall Import/Export Volumes	
		End Date:						Demolition Volume	
0	Concrete/Industrial Saws	81	0.73	8	0	#DIV/0!	#DIV/0!	Square footage of buildings to be demolished	
0	Excavators	158	0.38	8	0	#DIV/0!	#DIV/0!	(or total tons to be hauled)	
0	Rubber-Tired Dozers	247	0.4	8	0	#DIV/0!	#DIV/0!	0 square feet or	
0	Tractors/Loaders/Backhoes	97	0.37	8	0	#DIV/0!	#DIV/0!		
0	Water Truck	172	0.42	8	0	#DIV/0!	#DIV/0!		
0									
	Site Preparation SJC04	Start Date:	1/1/2025	Total phase days:	33				
		End Date:	2/15/2025						
1	Graders	187	0.41	8	30	7.3	218		
1	Rubber Tired Dozers	247	0.4	8	30	7.3	218		
1	Tractors/Loaders/Backhoes	97	0.37	8	25	6.1	152		
1	Water Truck	172	0.42	8	32	7.8	248		
4									
	Grading / Excavation /Trenching / Foundations SJC04	Start Date:	2/16/2025	Total phase days:	76				
		End Date:	6/2/2025					Soil Hauling Volume (all phases)	
2	Excavators	158	0.38	8	60	6.3	758	Cut volume = 61584 cubic yards?	
1	Graders	187	0.41	8	30	3.2	95	Fill volume = 8550 cubic yards?	
1	Rubber Tired Dozers	247	0.4	8	45	4.7	213	Export volume = 53034 cubic yards?	
1	Scrapers	367	0.48	8	10	1.1	11	*Cut and fill for SJC04 Phase	
1	Tractors/Loaders/Backhoes	97	0.37	8	45	4.7	213	Data source: Applicant	
1	Water Truck	172	0.42	8	75	7.9	592		
7									

	Building Construction SJC04	Start Date:	6/3/2025	Total phase days:	412			Cement Trucks? <u>770</u> deliveries or <u>6160</u> yd
	(including Recycled Water linear construction)	End Date:	12/31/2026					(assumption: 8 yd3/delivery)
1	Cranes	231	1/1/2027	7	200	3.4	680	
3	Forklifts	89	0.2	8	170	3.3	1683	Recycled water line is ~ 1.5 miles long, 2 ft wide, 6 ft deep
1	Generator Sets	84	0.74	8	120	2.3	280	Total waterline cut and fill = 3520 cu.yds.
2	Tractors/Loaders/Backhoes	97	0.37	8	170	3.3	1122	Trenching, pipe placement, backfill, re-surfacing =~ 90 days
1	Welders	46	0.45	8	200	3.9	777	
1	Water Truck	172	0.42	8	200	3.9	777	
9								
	Architectural Coating SJC04	Start Date:	12/1/2026	Total phase days:	42			
		End Date:	1/28/2027					
2	Air Compressors	78	0.48	8	40	7.6	610	
1	Aerial Lift	62	0.31	8	40	7.6	305	
3								
	Paving SJC04	Start Date:	12/1/2026	Total phase days:	42			Asphalt? <u>61</u> deliveries or <u>1209</u> yd3
		Start Date:	1/28/2027					(assumption: 20 yd3/delivery)
0	Cement and Mortar Mixers	9	0.56	8	0	0.0	0	Avg asphalt thickness for commercial parking lots is 4"
1	Pavers	130	0.42	8	40	7.6	305	Parking lot ft2 divided by 81 = yd3 needed
2	Paving Equipment	132	0.36	8	35	6.7	467	
1	Rollers	80	0.38	8	40	7.6	305	
0	Tractors/Loaders/Backhoes	97	0.37	8	0	0.0	0	
4								
	End of SJC04 Phase							
	Site Preparation SJC06	Start Date:	3/1/2027	Total phase days:	31			
		End Date:	4/13/2027					
0	Graders	187	0.41	8	0	0.0	0	
0	Rubber Tired Dozers	247	0.4	8	0	0.0	0	
1	Tractors/Loaders/Backhoes	97	0.37	8	25	6.5	161	
1	Water Truck	172	0.42	8	30	7.7	232	
3								
	Grading / Excavation /Trenching / Foundations SJC06	Start Date:	4/14/2027	Total phase days:	77			
		End Date:	7/30/2027					
								Soil Hauling Volume
2	Excavators	158	0.38	8	60	6.2	748	Cut volume = 61584 cubic yards?
0	Graders	187	0.41	8	0	0.0	0	Fill volume = 8550 cubic yards?
1	Rubber Tired Dozers	247	0.4	8	45	4.7	210	Export volume = 53034 cubic yards?
0	Concrete/Industrial Saws	81	0.73	8	0	0.0	0	*Cut/fill for SJC06 Phase
1	Tractors/Loaders/Backhoes	97	0.37	8	45	4.7	210	Data Source: Applicant
1	Water Truck	172	0.42	8	76	7.9	600	
5								

	Building Construction SJC06	Start Date:	7/31/2027	Total phase days:	413			Cement Trucks? 770_ deliveries or 6160_yd3
		End Date:	2/28/2029					(assumption: 8 yd3/delivery)
1	Cranes	231	0.29	7	200	3.4	678	
2	Forklifts	89	0.2	8	170	3.3	1120	
0	Generator Sets	84	0.74	8	0	0.0	0	
1	Tractors/Loaders/Backhoes	97	0.37	7	170	2.9	490	
1	Welders	46	0.45	8	200	3.9	775	
1	Water Truck	172	0.42	8	200	3.9	775	
9								
	Architectural Coating SJC06	Start Date:	1/28/2029	Total phase days:	43			
		End Date:	3/28/2029					
2	Air Compressors	78	0.48	8	40	7.4	595	
1	Aerial Lift	62	0.31	8	40	7.4	298	
3								
	Paving SVJC6	Start Date:	1/28/2029	Total phase days:	42			Asphalt? 46_ deliveries or 920_yd3
		Start Date:	3/27/2029					(assumption: 20 yd3/delivery)
0	Cement and Mortar Mixers	9	0.56	8	0	0.0	0	See notes above.
1	Pavers	130	0.42	8	40	7.6	305	
1	Paving Equipment	132	0.36	8	35	6.7	233	
1	Rollers	80	0.38	8	40	7.6	305	
0	Tractors/Loaders/Backhoes	97	0.37	8	0	0.0	0	
4								
	End of SJC06 Phase							
See equipment HP and Load Factors in "Equipment Types" worksheet tab.								
Notes:								Other Misc Ops Data for CalEEMod Input (Final Buildout Ops)
1.	Equipment types by phase derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.							1. Power needs ~96 MW PG&E Carbon Intensity Factor= 206 lbs CO2/Mwh (2 phase total)
2.	Equipment run hours per day derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.							2. Reclaimed water use for bldg cooling ~ 1532 acre-feet/yr (1/2 to each phase)
3.	Watering for fugitive dust control at a minimum of 2 times per day							3. Potable water use for bldg employees ~6400 gals/yr/employee =~ 3 acre-feet/yr CBECS (2012), Table W1, EIA.gov (1/2 to each phase)
4.	onsite speed will be limited to <=5 mph							4. Waste generation rates ~ 1.15 ton/yr/employee =~ 166 tons/yr (1/2 to each phase)
5.	Const phase will be serviced by only offsite paved roads							5. OPs round trips/day: Employees = 144, Visitors = 8, Deliveries = 6 (1/2 to each phase) Estimated OPs total round trips/day = (144 x 1.25)+8+6 = 194 (1/2 to each phase)
6.	Trench construction times per: Southern Regional Water Pipeline Alliance, 3/08. Optimum trench construction progress rate is 80m (260ft) per day. Non-optimum trench construction progress rate is 30m (100 ft) per day.							6. Landscaping water use is estimated to be ~11 acre-feet/yr. (1/2 to each phase) Univ. of CA., Division of Agriculture and Natural Resources (Landscape Calculator)
	An average progress of 180 ft/day is used where applicable, or the applicant supplied timeframe.							https://ucanr.edu/sites/UrbanHort/Water_Use_of_Turfgrass_and_Landscape_Plant_Materials/
7.	Phase start and end months/hrs supplied by the Applicant.							7. Ops phase will be serviced by only offsite paved roads
8.	CalEEMod defaults used for worker estimates, etc.							
9.	Exported cut soil hauled offsite at 150 mi RT per Applicant							

Table AQ4-2 Air Quality Construction Support Data	
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Project Name:			Microsoft Data Center SJC04/06					
	See Equipment Type TAB for type, horsepower and load factor		Non-Phased Construction					
	Electrical Substation Area	75000	~ sq.ft.			21.25	Project Site area (acres) or approx. 925,650 sq.ft.	
	Water Storage Area	40000	~ sq.ft.					
	Tank Support Bldg Space	2465	~ sq.ft.				Employees and Operational Year	
	SJC04 Data Center Space	308,300	~ sq.ft.	SJC04			SJC04/06 = 144 (total all shifts) Ops Yr: 2028 MW req'd: 96	
	SJC06 Data Center Space	308,300	~ sq.ft.	SJC06			Construction Schedule: 25 months (avg 22 days/month) (See notes 9 and 10 below)	
	SJC04 Parking lot	98,000	~ sq.ft.	156 per plot plan	spaces		Other: Ops Yr: N/A	
	SJC06 Parking lot	98,000	~ sq.ft.				Ops Visitors/day: SJC04/06 = 8	
	Construction Days and Hours (Monday-Friday)	7:00	am to	5:00	pm		Ops site deliveries per day: SJC04/06 = 6	
	All construction start dates and phase dates are tentative and are the Applicants best estimates.						Total OPs round trips/day: Employees = 144, Visitors = 8, Deliveries = 6 (see Ops note 5 below)	
Quantity	Phase Descriptions	HP	Load Factor	Use Rates Hours/day (2)	EQ Use Days	Est. Use Hrs/day	Phase Hours	Comments
	Demolition (none proposed)	Start Date:		Total phase days:	0	Each		Overall Import/Export Volumes
		End Date:				Piece		Demolition Volume
0	Concrete/Industrial Saws	81	0.73	8	0	#DIV/0!	#DIV/0!	Square footage of buildings to be demolished
0	Excavators	158	0.38	8	0	#DIV/0!	#DIV/0!	(or total tons to be hauled)
0	Rubber-Tired Dozers	247	0.4	8	0	#DIV/0!	#DIV/0!	0 square feet or
0	Tractors/Loaders/Backhoes	97	0.37	8	0	#DIV/0!	#DIV/0!	
0	Water Truck	172	0.42	8	0	#DIV/0!	#DIV/0!	
0								
	Site Preparation	Start Date:	1/1/2025	Total phase days:	30			
		End Date:	2/11/2025					The site will require only minimal grading and leveling.
2	Graders	187	0.41	8	25	6.7	333	
1	Rubber Tired Dozers	247	0.4	8	25	6.7	167	
2	Tractors/Loaders/Backhoes	97	0.37	8	25	6.7	333	
1	Water Truck	172	0.42	8	30	8.0	240	
6								
	Grading / Excavation /Trenching / Foundations	Start Date:	2/12/2025	Total phase days:	60			
		End Date:	5/7/2025					Soil Hauling Volume (all phases)
2	Excavators	158	0.38	8	40	5.3	427	Cut volume = 123167 cubic yards?
1	Graders	187	0.41	8	20	2.7	53	Fill volume = 17100 cubic yards?
2	Rubber Tired Dozers	247	0.4	8	20	2.7	107	Export volume = 106067 cubic yards?
1	Scrapers	367	0.48	8	20	2.7	53	at 20 yd3 per load = 3882 haul trips (import trips only)
2	Tractors/Loaders/Backhoes	97	0.37	8	45	6.0	540	Data source: Applicant
1	Water Truck	172	0.42	8	60	8.0	480	
9								

	Building Construction	Start Date:	5/8/2025	Total phase days:	430			Cement Trucks? 1540 deliveries or 12320 yd
	(including Recycled Water linear construction)	End Date:	12/31/2026					(assumes 8 yd3 per load)
2	Cranes	231	0.29	7	200	3.3	1302	
4	Forklifts	89	0.2	8	170	3.2	2151	Recycled water line is ~ 1.5 miles long, 3 ft wide, 6 ft deep
2	Generator Sets	84	0.74	8	120	2.2	536	Total waterline cut and fill = 5280 cu.yds.
3	Tractors/Loaders/Backhoes	97	0.37	8	170	3.2	1613	Trenching, pipe placement, backfill, re-surfacing =~ 90 days
2	Welders	46	0.45	8	200	3.7	1488	(see the Reclaim Water Line CalEEMod evaluation)
1	Water Truck	172	0.42	8	220	4.1	900	
14								
	Architectural Coating	Start Date:	12/15/2026	Total phase days:	34			
		End Date:	1/31/2027					
4	Air Compressors	78	0.48	8	32	7.5	964	
2	Aerial Lift	62	0.31	8	30	7.1	424	
6								
	Paving	Start Date:	12/15/2026	Total phase days:	34			Asphalt? 91 deliveries or 1820 yd3
		Start Date:	1/31/2027					(assumption: 20 yd3/delivery)
0	Cement and Mortar Mixers	9	0.56	8	0	0.0	0	Avg asphalt thickness for commercial parking lots is 4"
2	Pavers	130	0.42	8	30	7.1	424	
2	Paving Equipment	132	0.36	8	30	7.1	424	
2	Rollers	80	0.38	8	30	7.1	424	
1	Tractors/Loaders/Backhoes	97	0.37	8	25	5.9	147	
7								
See equipment HP and Load Factors in "Equipment Types" worksheet tab.								
Notes:								Other Misc Ops Data for CalEEMod Input (Final Buildout Ops)
1. Equipment types by phase derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.								1. Power needs ~96 MW PG&E Carbon Intensity Factor= 206 lbs CO2/Mwh
2. Equipment run hours per day derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.								2. Reclaimed water use for bldg cooling ~ 1532 acre-feet/yr
3. Watering for fugitive dust control at a minimum of 2 times per day								3. Potable water use for bldg employees ~6400 gals/yr/employee =~ 3 acre-feet/yr CBECS (2012), Table W1, EIA.gov
4. onsite speed will be limited to <=5 mph								4. Waste generation rates ~ 1.15 ton/yr/employee =~ 166 tons/yr
5. Const phase will be serviced by only offsite paved roads								5. OPs round trips/day: Employees = 144, Visitors = 8, Deliveries = 6 Estimated OPs total round trips/day = (144 x 1.25)+8+6 = 194
6. Trench construction times per: Southern Regional Water Pipeline Alliance, 3/08. Optimum trench construction progress rate is 80m (260ft) per day. Non-optimum trench construction progress rate is 30m (100 ft) per day. An average progress of 180 ft/day is used where applicable, or the applicant supplied timeframe.								6. Landscaping water use is estimated to be ~11 acre-feet/yr. Univ. of CA., Division of Agriculture and Natural Resources (Landscape Calculator) https://ucanr.edu/sites/UrbanHort/Water_Use_of_Turfgrass_and_Landscape_Plant_Materials/
7. Phase start and end months/hrs supplied by the Applicant.								8. ~total DC floor space = 616,600 sq.ft. or 616.6 x10^3
8. CalEEMod defaults used for worker estimates, etc.								194 avg daily round trips
9. 25 months at 22 days/month = 550 anticipated work days								=~ 0.315 RT/day/1000 sq.ft.
10. Work schedule best estimates above results in 554 work days (accounting for overlaps of schedules).								
11. Peak daily work force =~ 134 during months 9 to 18. Avg daily workforce =~ 80.								
12. Offsite cut hauling at 150 mi RT per Applicant.								

Table AQ4-3 Air Quality Construction Support Data

Project Name:			Microsoft Data Center Offsite Reclaim Water Line						
	See Equipment Type TAB for type, horsepower and load factor								
	Electrical Substation Area	0	~ sq.ft.			21.25	Project Site area (acres) or approx. 925,650 sq.ft.		
	Water Storage Area	0	~ sq.ft.						
	Tank Support Bldg Space	0	~ sq.ft.						
	SJC04 Data Center Space	0	~ sq.ft.	SJC04			Employees and Operational Year		
	SJC06 Data Center Space	0	~ sq.ft.	SJC06			RWL Employees = 0	Ops Yr: 2026	MW req'd: 0
	SJC04 Parking lot / internal and external access space	0	~ sq.ft.	0	spaces		Other: Ops Yr: N/A		
	SJC06 Parking lot / internal and external access space	0	~ sq.ft.	0	spaces		Ops Visitors/day: N/A		
	Construction Days and Hours (Monday-Friday)	7:00	am to	5:00	pm		RWL Pipe deliveries: 1 every other day = 45		
Quantity	Phase Descriptions	HP	Load Factor	Default Use Rates Hours/day (2)	EQ Use Days	Estimated Use Hrs/day	Phase Hours	Comments	
	Reclaim Water Line-Offsite Construction	Start Date:	3/1/2025	Total phase days:	90			Data (best estimate)	
		End Date:	7/4/2025					Recycled water line is ~ 1.5 miles long, 3 ft wide, 6 ft deep	
1	Excavator	158	0.38	8	85	7.6	642	Total waterline cut and fill = 5280 cu.yds.	
1	Forklift	89	0.2	8	65	5.8	376	Trenching, pipe placement, backfill, re-surfacing =~ 90 days	
1	Tractors/Loaders/Backhoes	97	0.37	8	70	6.2	436	Corridor width unknown (assumed 15 ft wide)	
1	Other Const Equipment (Pipe haul truck)	172	0.42	8	45	4.0	180	Corridor assumed area =~ 3 acres	
1	Roller	80	0.38	8	20	1.8	36		
5								~2000 cu.yds.of cut hauled offsite	
See equipment HP and Load Factors in "Equipment Types" worksheet tab.									
Notes:									
1. Equipment types by phase derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.				9. The 4 month construction period for the RWL can occur at any 4 months during 2025. The dates above are a best estimate.					
2. Equipment run hours per day derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.									
3. Watering for fugitive dust control at a minimum of 2 times per day (provided by main site watering truck)									
4. pipeline corridor onsite speed will be limited to <=5 mph									
5. Const phase will be serviced by only offsite paved roads									
6. Trench construction times per: Southern Regional Water Pipeline Alliance, 3/08. Optimum trench construction progress rate is 80m (260ft) per day. Non-optimum trench construction progress rate is 30m (100 ft) per day. An average progress of 180 ft/day is used where applicable, or the applicant supplied timeframe.									
7. Phase start and end months/hrs estimated by the Applicant.									
8. CalEEMod defaults used for worker estimates, etc.									

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Microsoft SJC04
Santa Clara County, Annual

Table AQ4-4

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	308.30	1000sqft	15.57	308,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2028
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MW hr)	203.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Data from Applicant.

Land Use - Bldg data supplied by Applicant. Parcel size supplied Applicant.

Phase SJC04 includes SJC04 bldg, substation area, water storage area, tank support bldg, and parking/access paved areas for bldg 1 only.

Construction Phase - Const start and end dates supplied by Applicant. All start dates and phase dates are tentative and represent best estimates.

Off-road Equipment - Best estimate Applicant/ADI.

Off-road Equipment - Best estimate Applicant/ADI. Other Const EQ = water truck

Off-road Equipment - There is no demo phase for SJC04.

Off-road Equipment - Best estimate Applicant/ADI. Other Const EQ = water truck.

Off-road Equipment - Best estimate Applicant/ADI.

Off-road Equipment - Best estimate Applicant and ADI. Other Const EQ = water truck.

Trips and VMT - Assumed 4 vndor materials deliveries per const day duirng bldg phase.

Haulign trips based on cut export, concrete deliveries, and asphalt deliveries.

On-road Fugitive Dust - road sikt loading from EPA-454/R-23-001w, March 2023.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - No demolition phase.

Grading - Applicant data.

Architectural Coating - Default values assumed.

Vehicle Trips - Based on 79 RTs/day and $308.30 \times 1000 \text{ ft}^2 = 0.256 = 0.26$ (rounded value)

Road Dust - See earlier reference for sil loading. There are no unpaved roads onsite.

Area Coating - Defaults assumed.

Landscape Equipment - Defaults assumed.

Water And Wastewater - Indoor use based on employee numbers, Outdoor use based on landscape calculations.

Solid Waste - Based on 72 employees each at 1.15 ton/yr $\approx$ 83 tpy

Land Use Change - Assumes $\sim 94\%$ of site is bldg, parking, access, and utilities, etc.

Construction Off-road Equipment Mitigation - Applicant assumed data based on const mix and EPA Tier at present.

Fleet Mix - Applicant estimates based on typical employee vehicles.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	300.00	413.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	30.00	76.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	10.00	33.00
tblGrading	AcresOfGrading	58.42	30.00
tblGrading	AcresOfGrading	30.11	15.57
tblGrading	MaterialExported	0.00	53,034.00
tblLandUse	LotAcreage	7.08	15.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	7.60
tblOffRoadEquipment	UsageHours	7.00	3.40
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	3.30
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	4.70
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	7.00	3.30
tblOffRoadEquipment	UsageHours	8.00	4.70
tblOffRoadEquipment	UsageHours	8.00	6.10
tblOffRoadEquipment	UsageHours	8.00	3.90
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblRoadDust	RoadSiltLoading	0.1	0.02

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblSolidWaste	SolidWasteGenerationRate	286.72	83.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	6,629.00	2,652.00
tblTripsAndVMT	HaulingTripNumber	0.00	770.00
tblTripsAndVMT	HaulingTripNumber	0.00	41.00
tblTripsAndVMT	VendorTripNumber	51.00	4.00
tblVehicleTrips	ST_TR	2.21	0.26
tblVehicleTrips	SU_TR	0.70	0.26
tblVehicleTrips	WD_TR	9.74	0.26
tblWater	IndoorWaterUseRate	54,795,314.51	489,000.00
tblWater	OutdoorWaterUseRate	33,584,225.02	1,793,000.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					
2025	0.1578	2.4226	1.7174	8.7600e-003	0.3050	0.0634	0.3685	0.1570	0.0590	0.2160						863.6359
2026	0.9888	0.9731	1.4414	3.0100e-003	0.0164	0.0409	0.0573	0.0119	0.0383	0.0502						269.7955
2027	0.7584	0.0855	0.1495	2.5000e-004	3.6000e-004	3.8500e-003	4.2100e-003	2.7000e-004	3.6500e-003	3.9100e-003						22.2537
Maximum	0.9888	2.4226	1.7174	8.7600e-003	0.3050	0.0634	0.3685	0.1570	0.0590	0.2160						863.6359

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					
2025	0.0627	1.4019	1.9570	8.7600e-003	0.2098	0.0155	0.2253	0.0872	0.0150	0.1022						863.6356
2026	0.9131	0.2402	1.5787	3.0100e-003	0.0387	3.9100e-003	0.0426	0.0119	3.8600e-003	0.0158						269.7953
2027	0.7512	0.0212	0.1687	2.5000e-004	8.7000e-004	3.7000e-004	1.2400e-003	2.7000e-004	3.7000e-004	6.4000e-004						22.2537
Maximum	0.9131	1.4019	1.9570	8.7600e-003	0.2098	0.0155	0.2253	0.0872	0.0150	0.1022						863.6356

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	9.35	52.22	-11.98	0.00	22.50	81.73	37.41	41.23	80.98	56.09	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2025	3-31-2025	0.9722	0.5635
2	4-1-2025	6-30-2025	1.0961	0.7545
3	7-1-2025	9-30-2025	0.2499	0.0670
4	10-1-2025	12-31-2025	0.2518	0.0689
5	1-1-2026	3-31-2026	0.2454	0.0665
6	4-1-2026	6-30-2026	0.2463	0.0654
7	7-1-2026	9-30-2026	0.2490	0.0661
8	10-1-2026	12-31-2026	1.1854	0.9233
9	1-1-2027	3-31-2027	0.8440	0.7725
		Highest	1.1854	0.9233

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3651	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Energy	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						762.7258
Mobile	0.0272	0.0284	0.2631	5.7000e-004	0.0240	3.8000e-004	0.0244	7.4200e-003	3.5000e-004	7.7700e-003						53.1780
Waste						0.0000	0.0000		0.0000	0.0000						41.7408
Water						0.0000	0.0000		0.0000	0.0000						1.4992
Total	1.4192	0.2733	0.4716	2.0400e-003	0.0240	0.0190	0.0430	7.4200e-003	0.0190	0.0264						859.1498

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

[illegible]

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.3 Vegetation****Vegetation**

	CO2e
Category	MT
Vegetation Land Change	-82.9675
Total	-82.9675

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2025	12/31/2024	5	0	No Demo Phase
2	Site Preparation	Site Preparation	1/1/2025	2/15/2025	5	33	
3	Grading	Grading	2/16/2025	6/2/2025	5	76	
4	Building Construction	Building Construction	6/3/2025	12/31/2026	5	413	
5	Paving	Paving	12/1/2026	1/28/2027	5	43	
6	Architectural Coating	Architectural Coating	12/1/2026	1/28/2027	5	43	

Acres of Grading (Site Preparation Phase): 15.57**Acres of Grading (Grading Phase): 30****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 462,450; Non-Residential Outdoor: 154,150; Striped Parking Area: 0 (Architectural Coating – sqft)**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Graders	1	7.30	187	0.41
Site Preparation	Other Construction Equipment	1	7.80	172	0.42
Site Preparation	Rubber Tired Dozers	1	7.30	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	6.10	97	0.37
Grading	Excavators	2	6.30	158	0.38
Grading	Graders	1	3.20	187	0.41
Grading	Other Construction Equipment	1	7.90	172	0.42
Grading	Rubber Tired Dozers	1	4.70	247	0.40
Grading	Scrapers	2	1.10	367	0.48
Grading	Tractors/Loaders/Backhoes	2	4.70	97	0.37
Building Construction	Cranes	1	3.40	231	0.29
Building Construction	Forklifts	3	3.30	89	0.20
Building Construction	Generator Sets	1	2.30	84	0.74
Building Construction	Other Construction Equipment	1	3.90	172	0.42
Building Construction	Tractors/Loaders/Backhoes	2	3.30	97	0.37
Building Construction	Welders	1	3.90	46	0.45
Paving	Pavers	1	7.60	130	0.42
Paving	Paving Equipment	2	6.70	132	0.36
Paving	Rollers	1	7.60	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Architectural Coating	Aerial Lifts	1	7.60	63	0.31
Architectural Coating	Air Compressors	2	7.60	78	0.48

Trips and VMT

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	0.00	2,652.00	10.80	7.30	150.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	99.00	4.00	770.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	41.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.3 Site Preparation - 2025**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					0.0989	0.0000	0.0989	0.0507	0.0000	0.0507						0.0000
Off-Road	0.0209	0.2131	0.1615	3.7000e-004		9.0200e-003	9.0200e-003		8.3000e-003	8.3000e-003						32.4848
Total	0.0209	0.2131	0.1615	3.7000e-004	0.0989	9.0200e-003	0.1080	0.0507	8.3000e-003	0.0590						32.4848

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2025****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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.6000e-004	2.3000e-004	3.2200e-003	1.0000e-005	1.8000e-004	1.0000e-005	1.8000e-004	1.3000e-004	1.0000e-005	1.4000e-004						0.9403
Total	3.6000e-004	2.3000e-004	3.2200e-003	1.0000e-005	1.8000e-004	1.0000e-005	1.8000e-004	1.3000e-004	1.0000e-005	1.4000e-004						0.9403

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					0.0445	0.0000	0.0445	0.0228	0.0000	0.0228						0.0000
Off-Road	4.5000e-003	0.0195	0.2078	3.7000e-004		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004						32.4848
Total	4.5000e-003	0.0195	0.2078	3.7000e-004	0.0445	6.0000e-004	0.0451	0.0228	6.0000e-004	0.0234						32.4848

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2025

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.6000e-004	2.3000e-004	3.2200e-003	1.0000e-005	4.4000e-004	1.0000e-005	4.4000e-004	1.3000e-004	1.0000e-005	1.4000e-004						0.9403
Total	3.6000e-004	2.3000e-004	3.2200e-003	1.0000e-005	4.4000e-004	1.0000e-005	4.4000e-004	1.3000e-004	1.0000e-005	1.4000e-004						0.9403

3.4 Grading - 2025

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					0.1534	0.0000	0.1534	0.0761	0.0000	0.0761						0.0000
Off-Road	0.0533	0.5035	0.5920	1.1300e-003		0.0222	0.0222		0.0204	0.0204						100.0769
Total	0.0533	0.5035	0.5920	1.1300e-003	0.1534	0.0222	0.1755	0.0761	0.0204	0.0965						100.0769

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2025

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	0.0125	1.1939	0.1963	5.5900e-003	0.0424	0.0110	0.0533	0.0225	0.0105	0.0330						581.3826
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.9300e-003	1.2300e-003	0.0171	5.0000e-005	9.4000e-004	3.0000e-005	9.7000e-004	7.1000e-004	3.0000e-005	7.4000e-004						4.9809
Total	0.0144	1.1952	0.2134	5.6400e-003	0.0433	0.0110	0.0543	0.0232	0.0105	0.0337						586.3636

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					0.0690	0.0000	0.0690	0.0342	0.0000	0.0342						0.0000
Off-Road	0.0139	0.0602	0.7182	1.1300e-003		1.8500e-003	1.8500e-003		1.8500e-003	1.8500e-003						100.0768
Total	0.0139	0.0602	0.7182	1.1300e-003	0.0690	1.8500e-003	0.0709	0.0342	1.8500e-003	0.0361						100.0768

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 2025****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	0.0125	1.1939	0.1963	5.5900e-003	0.0716	0.0110	0.0825	0.0225	0.0105	0.0330						581.3826
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.9300e-003	1.2300e-003	0.0171	5.0000e-005	2.3300e-003	3.0000e-005	2.3600e-003	7.1000e-004	3.0000e-005	7.4000e-004						4.9809
Total	0.0144	1.1952	0.2134	5.6400e-003	0.0739	0.0110	0.0849	0.0232	0.0105	0.0337						586.3636

3.5 Building Construction - 2025**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	0.0516	0.4674	0.5917	9.9000e-004		0.0208	0.0208		0.0194	0.0194						86.1939
Total	0.0516	0.4674	0.5917	9.9000e-004		0.0208	0.0208		0.0194	0.0194						86.1939

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.9000e-004	0.0192	4.5200e-003	8.0000e-005	6.1000e-004	1.6000e-004	7.6000e-004	3.2000e-004	1.5000e-004	4.7000e-004						8.5843
Vendor	3.2000e-004	0.0135	4.1200e-003	6.0000e-005	5.9000e-004	8.0000e-005	6.7000e-004	3.1000e-004	8.0000e-005	3.9000e-004						6.1130
Worker	0.0166	0.0106	0.1470	4.6000e-004	8.0900e-003	2.7000e-004	8.3600e-003	6.1400e-003	2.5000e-004	6.3800e-003						42.8792
Total	0.0172	0.0432	0.1556	6.0000e-004	9.2900e-003	5.1000e-004	9.7900e-003	6.7700e-003	4.8000e-004	7.2400e-003						57.5764

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	0.0123	0.0836	0.6588	9.9000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003						86.1938
Total	0.0123	0.0836	0.6588	9.9000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003						86.1938

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2025****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.9000e-004	0.0192	4.5200e-003	8.0000e-005	1.0200e-003	1.6000e-004	1.1800e-003	3.2000e-004	1.5000e-004	4.7000e-004						8.5843
Vendor	3.2000e-004	0.0135	4.1200e-003	6.0000e-005	9.2000e-004	8.0000e-005	1.0000e-003	3.1000e-004	8.0000e-005	3.9000e-004						6.1130
Worker	0.0166	0.0106	0.1470	4.6000e-004	0.0200	2.7000e-004	0.0203	6.1400e-003	2.5000e-004	6.3800e-003						42.8792
Total	0.0172	0.0432	0.1556	6.0000e-004	0.0220	5.1000e-004	0.0225	6.7700e-003	4.8000e-004	7.2400e-003						57.5764

3.5 Building Construction - 2026**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	0.0886	0.8026	1.0161	1.7100e-003		0.0356	0.0356		0.0333	0.0333						148.0040
Total	0.0886	0.8026	1.0161	1.7100e-003		0.0356	0.0356		0.0333	0.0333						148.0040

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2026****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	5.0000e-004	0.0326	7.7900e-003	1.4000e-004	1.0400e-003	2.7000e-004	1.3100e-003	5.5000e-004	2.6000e-004	8.1000e-004						14.4386
Vendor	5.3000e-004	0.0230	6.9800e-003	1.0000e-004	1.0200e-003	1.4000e-004	1.1500e-003	5.4000e-004	1.3000e-004	6.7000e-004						10.3103
Worker	0.0270	0.0165	0.2383	7.7000e-004	0.0139	4.4000e-004	0.0143	0.0105	4.0000e-004	0.0109						71.3817
Total	0.0280	0.0722	0.2531	1.0100e-003	0.0160	8.5000e-004	0.0168	0.0116	7.9000e-004	0.0124						96.1307

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	0.0212	0.1436	1.1312	1.7100e-003		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003						148.0038
Total	0.0212	0.1436	1.1312	1.7100e-003		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003						148.0038

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2026****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	5.0000e-004	0.0326	7.7900e-003	1.4000e-004	1.7600e-003	2.7000e-004	2.0200e-003	5.5000e-004	2.6000e-004	8.1000e-004						14.4386
Vendor	5.3000e-004	0.0230	6.9800e-003	1.0000e-004	1.5800e-003	1.4000e-004	1.7100e-003	5.4000e-004	1.3000e-004	6.7000e-004						10.3103
Worker	0.0270	0.0165	0.2383	7.7000e-004	0.0344	4.4000e-004	0.0348	0.0105	4.0000e-004	0.0109						71.3817
Total	0.0280	0.0722	0.2531	1.0100e-003	0.0377	8.5000e-004	0.0385	0.0116	7.9000e-004	0.0124						96.1307

3.6 Paving - 2026**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2200e-003	0.0574	0.1009	1.6000e-004		2.8100e-003	2.8100e-003		2.5800e-003	2.5800e-003						14.0305
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	6.2200e-003	0.0574	0.1009	1.6000e-004		2.8100e-003	2.8100e-003		2.5800e-003	2.5800e-003						14.0305

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2026****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.4700e-003	3.5000e-004	1.0000e-005	5.0000e-005	1.0000e-005	6.0000e-005	2.0000e-005	1.0000e-005	4.0000e-005						0.6507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.4000e-004	1.5000e-004	2.1200e-003	1.0000e-005	1.2000e-004	0.0000	1.3000e-004	9.0000e-005	0.0000	1.0000e-004						0.6354
Total	2.6000e-004	1.6200e-003	2.4700e-003	2.0000e-005	1.7000e-004	1.0000e-005	1.9000e-004	1.1000e-004	1.0000e-005	1.4000e-004						1.2861

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9500e-003	8.4600e-003	0.1203	1.6000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004						14.0305
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	1.9500e-003	8.4600e-003	0.1203	1.6000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004						14.0305

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.4700e-003	3.5000e-004	1.0000e-005	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	4.0000e-005						0.6507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.4000e-004	1.5000e-004	2.1200e-003	1.0000e-005	3.1000e-004	0.0000	3.1000e-004	9.0000e-005	0.0000	1.0000e-004						0.6354
Total	2.6000e-004	1.6200e-003	2.4700e-003	2.0000e-005	3.9000e-004	1.0000e-005	4.0000e-004	1.1000e-004	1.0000e-005	1.4000e-004						1.2861

3.6 Paving - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4100e-003	0.0499	0.0877	1.4000e-004		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003						12.2005
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	5.4100e-003	0.0499	0.0877	1.4000e-004		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003						12.2005

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2700e-003	3.1000e-004	1.0000e-005	4.0000e-005	1.0000e-005	5.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005						0.5530
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.0000e-004	1.2000e-004	1.7500e-003	1.0000e-005	1.1000e-004	0.0000	1.1000e-004	8.0000e-005	0.0000	8.0000e-005						0.5368
Total	2.2000e-004	1.3900e-003	2.0600e-003	2.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	1.0000e-004	1.0000e-005	1.1000e-004						1.0898

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7000e-003	7.3500e-003	0.1046	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004						12.2005
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	1.7000e-003	7.3500e-003	0.1046	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004						12.2005

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2700e-003	3.1000e-004	1.0000e-005	7.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005						0.5530
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.0000e-004	1.2000e-004	1.7500e-003	1.0000e-005	2.7000e-004	0.0000	2.7000e-004	8.0000e-005	0.0000	8.0000e-005						0.5368
Total	2.2000e-004	1.3900e-003	2.0600e-003	2.0000e-005	3.4000e-004	1.0000e-005	3.5000e-004	1.0000e-004	1.0000e-005	1.1000e-004						1.0898

3.7 Architectural Coating - 2026

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	0.8599					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	5.3500e-003	0.0391	0.0646	1.0000e-004		1.6000e-003	1.6000e-003		1.5900e-003	1.5900e-003						9.0734
Total	0.8652	0.0391	0.0646	1.0000e-004		1.6000e-003	1.6000e-003		1.5900e-003	1.5900e-003						9.0734

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2026

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.8000e-004	2.9000e-004	4.2400e-003	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	1.9000e-004	1.0000e-005	1.9000e-004						1.2708
Total	4.8000e-004	2.9000e-004	4.2400e-003	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	1.9000e-004	1.0000e-005	1.9000e-004						1.2708

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	0.8599					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	1.3200e-003	0.0141	0.0673	1.0000e-004		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004						9.0734
Total	0.8612	0.0141	0.0673	1.0000e-004		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004						9.0734

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2026

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.8000e-004	2.9000e-004	4.2400e-003	1.0000e-005	6.1000e-004	1.0000e-005	6.2000e-004	1.9000e-004	1.0000e-005	1.9000e-004						1.2708
Total	4.8000e-004	2.9000e-004	4.2400e-003	1.0000e-005	6.1000e-004	1.0000e-005	6.2000e-004	1.9000e-004	1.0000e-005	1.9000e-004						1.2708

3.7 Architectural Coating - 2027

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	0.7477					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	4.6500e-003	0.0340	0.0562	9.0000e-005		1.3900e-003	1.3900e-003		1.3800e-003	1.3800e-003						7.8899
Total	0.7524	0.0340	0.0562	9.0000e-005		1.3900e-003	1.3900e-003		1.3800e-003	1.3800e-003						7.8899

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2027

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.0000e-004	2.3000e-004	3.5000e-003	1.0000e-005	2.2000e-004	1.0000e-005	2.2000e-004	1.6000e-004	1.0000e-005	1.7000e-004						1.0736
Total	4.0000e-004	2.3000e-004	3.5000e-003	1.0000e-005	2.2000e-004	1.0000e-005	2.2000e-004	1.6000e-004	1.0000e-005	1.7000e-004						1.0736

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	0.7477					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	1.1500e-003	0.0122	0.0585	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004						7.8899
Total	0.7489	0.0122	0.0585	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004						7.8899

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.7 Architectural Coating - 2027****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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.0000e-004	2.3000e-004	3.5000e-003	1.0000e-005	5.3000e-004	1.0000e-005	5.4000e-004	1.6000e-004	1.0000e-005	1.7000e-004						1.0736
Total	4.0000e-004	2.3000e-004	3.5000e-003	1.0000e-005	5.3000e-004	1.0000e-005	5.4000e-004	1.6000e-004	1.0000e-005	1.7000e-004						1.0736

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0272	0.0284	0.2631	5.7000e-004	0.0240	3.8000e-004	0.0244	7.4200e-003	3.5000e-004	7.7700e-003						53.1780
Unmitigated	0.0272	0.0284	0.2631	5.7000e-004	0.0240	3.8000e-004	0.0244	7.4200e-003	3.5000e-004	7.7700e-003						53.1780

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	80.16	80.16	80.16	191,558	191,558
Total	80.16	80.16	80.16	191,558	191,558

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576295	0.056490	0.183529	0.114985	0.020137	0.005304	0.008188	0.006136	0.000868	0.000349	0.024273	0.000862	0.002585

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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						494.6186
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						494.6186
NaturalGas Mitigated	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
NaturalGas Unmitigated	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building +006	4.99446e+006	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
Total		0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072

Mitigated

	NaturalGas s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building +006	4.99446e+006	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
Total		0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	5,29351e+006				494,6186
Total					494,6186

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	5,29351e+006				494,6186
Total					494,6186

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3651	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Unmitigated	1.3651	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-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	0.1608					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.2041					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.6000e-004	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Total	1.3651	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1608					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.2041					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.6000e-004	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Total	1.3651	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.9003
Unmitigated				1.4992

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.489 / 1.793				1.4992
Total					1.4992

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.293791 / 1.0758				0.9003
Total					0.9003

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				41.7408
Unmitigated				41.7408

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	83				41.7408
Total					41.7408

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	83				41.7408
Total					41.7408

9.0 Operational Offroad

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	::	::	::	-82.9675

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	21.25 / 2				-82,9675
Total					-82,9675

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Microsoft SJC06
Santa Clara County, Annual

Table AQ4-5

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	308.30	1000sqft	6.30	308,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2030
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Applicant supplied start and phase times. Start and phased times are tentative and best estimates.

Land Use - SJC06 acres based on the buildout of SJC04. SJC06 is basically bldg construction and some preliinaty site prep and grading.

Construction Phase - Applicant best estimates of dates.

Off-road Equipment - Best estimates.

Off-road Equipment - Best estimates.

Off-road Equipment - No demolition phase.

Off-road Equipment - Best estimates.

Off-road Equipment - Best estimates.

Off-road Equipment - Best estimates.

Trips and VMT - Hauling trips based on: Soil export of 53034 cu.yd, concrete deliveries of 770, and asphlat deliveries of 46. Worker trips adjusted for lesser manpower schedule for SJC06.

Demolition - No demolition.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - See notes on SJC04.

Vehicle Trips - Basedon SJC06 308.300 x 1000 ft2 and 79 trips per day.

Road Dust - See reference for the silt loading value in SJC04.

Area Coating - Defaults assumed.

Landscape Equipment - Defaults assumed.

Energy Use - Defaults assumed.

Water And Wastewater - Same calcs as SJC04.

Solid Waste - Same calcs as SJC04.

Construction Off-road Equipment Mitigation - Same fERENCE as SJC04.

Area Mitigation - Same commetns as SJC04.

Fleet Mix - Based on typical employee vehicles.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	230.00	405.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	78.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	10.00	32.00
tblGrading	AcresOfGrading	0.00	6.30
tblGrading	AcresOfGrading	0.00	6.30
tblGrading	MaterialExported	0.00	53,034.00
tblLandUse	LotAcreage	7.08	6.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	7.40
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	3.40
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	6.20
tblOffRoadEquipment	UsageHours	8.00	3.30
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.70
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	2.90
tblOffRoadEquipment	UsageHours	8.00	4.70
tblOffRoadEquipment	UsageHours	8.00	6.50
tblOffRoadEquipment	UsageHours	8.00	3.90
tblRoadDust	RoadSiltLoading	0.1	0.02
tblSolidWaste	SolidWasteGenerationRate	286.72	83.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	6,629.00	2,652.00
tblTripsAndVMT	HaulingTripNumber	0.00	770.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	HaulingTripNumber	0.00	46.00
tblTripsAndVMT	VendorTripNumber	51.00	4.00
tblVehicleTrips	ST_TR	2.21	0.26
tblVehicleTrips	SU_TR	0.70	0.26
tblVehicleTrips	WD_TR	9.74	0.26
tblWater	IndoorWaterUseRate	54,795,314.51	489,000.00
tblWater	OutdoorWaterUseRate	33,584,225.02	1,793,000.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					
2027	0.0733	1.6395	0.9260	6.8000e-003	0.2276	0.0316	0.2592	0.0607	0.0295	0.0902						686.0912
2028	0.0910	0.6549	0.9107	2.1400e-003	0.1097	0.0271	0.1368	0.0293	0.0252	0.0545						193.5669
2029	1.6395	0.2472	0.3922	7.4000e-004	0.0199	0.0107	0.0307	5.3200e-003	0.0101	0.0154						66.3407
Maximum	1.6395	1.6395	0.9260	6.8000e-003	0.2276	0.0316	0.2592	0.0607	0.0295	0.0902						686.0912

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					
2027	0.0369	1.2774	1.0164	6.8000e-003	0.2223	0.0128	0.2351	0.0601	0.0123	0.0723						686.0911
2028	0.0406	0.1872	1.0024	2.1400e-003	0.1097	2.6500e-003	0.1123	0.0293	2.6000e-003	0.0319						193.5668
2029	1.6192	0.0660	0.4358	7.4000e-004	0.0199	1.0200e-003	0.0210	5.3200e-003	1.0200e-003	6.3400e-003						66.3406
Maximum	1.6192	1.2774	1.0164	6.8000e-003	0.2223	0.0128	0.2351	0.0601	0.0123	0.0723						686.0911

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	5.94	39.78	-10.12	0.00	1.49	76.29	13.66	0.68	75.45	30.94	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2027	5-31-2027	0.6052	0.5175
2	6-1-2027	8-31-2027	0.7985	0.6635
3	9-1-2027	11-30-2027	0.1878	0.0583
4	12-1-2027	2-29-2028	0.1879	0.0584
5	3-1-2028	5-31-2028	0.1885	0.0576
6	6-1-2028	8-31-2028	0.1879	0.0570
7	9-1-2028	11-30-2028	0.1871	0.0575
8	12-1-2028	2-28-2029	1.1144	0.9305
9	3-1-2029	5-31-2029	0.8311	0.7698
		Highest	1.1144	0.9305

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3651	3.0000e-005	2.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8600e-003
Energy	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						762.7258
Mobile	0.0256	0.0264	0.2507	5.4000e-004	0.0240	3.4000e-004	0.0244	7.4200e-003	3.2000e-004	7.7400e-003						50.8194
Waste						0.0000	0.0000		0.0000	0.0000						41.7408
Water						0.0000	0.0000		0.0000	0.0000						1.4992
Total	1.4176	0.2713	0.4591	2.0100e-003	0.0240	0.0190	0.0430	7.4200e-003	0.0189	0.0264						856.7911

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

[illegible]

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.3 Vegetation****Vegetation**

	CO2e
Category	MT
Vegetation Land Change	0.0000
Total	0.0000

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/28/2027	2/28/2027	5	0	No Demo phase
2	Site Preparation	Site Preparation	3/1/2027	4/13/2027	5	32	
3	Grading	Grading	4/14/2027	7/30/2027	5	78	
4	Building Construction	Building Construction	7/31/2027	2/18/2029	5	405	
5	Paving	Paving	1/28/2029	3/28/2029	5	43	
6	Architectural Coating	Architectural Coating	1/28/2029	3/28/2029	5	43	

Acres of Grading (Site Preparation Phase): 6.3**Acres of Grading (Grading Phase): 6.3****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 462,450; Non-Residential Outdoor: 154,150; Striped Parking Area: 0 (Architectural Coating – sqft)**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	158	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Graders	0	7.70	187	0.41
Site Preparation	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	6.50	97	0.37
Grading	Excavators	1	6.20	158	0.38
Grading	Graders	0	0.00	187	0.41
Grading	Other Construction Equipment	1	7.90	172	0.42
Grading	Rubber Tired Dozers	0	4.70	247	0.40
Grading	Tractors/Loaders/Backhoes	1	4.70	97	0.37
Building Construction	Cranes	1	3.40	231	0.29
Building Construction	Forklifts	2	3.30	89	0.20
Building Construction	Generator Sets	0	0.60	84	0.74
Building Construction	Other Construction Equipment	1	3.90	172	0.42
Building Construction	Tractors/Loaders/Backhoes	1	2.90	97	0.37
Building Construction	Welders	1	3.90	46	0.45
Paving	Pavers	1	7.60	130	0.42
Paving	Paving Equipment	1	6.70	132	0.36
Paving	Rollers	1	7.60	80	0.38
Architectural Coating	Aerial Lifts	1	7.40	63	0.31
Architectural Coating	Air Compressors	2	7.40	78	0.48

Trips and VMT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.1 Mitigation Measures Construction

Water Exposed Area

Unmitigated Construction On-Site

[illegible]

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2027****Mitigated Construction Off-Site**

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

3.3 Site Preparation - 2027**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					3.3400e-003	0.0000	3.3400e-003	3.6000e-004	0.0000	3.6000e-004						0.0000
Off-Road	1.7200e-003	0.0174	0.0290	4.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004						3.5911
Total	1.7200e-003	0.0174	0.0290	4.0000e-005	3.3400e-003	7.0000e-004	4.0400e-003	3.6000e-004	6.5000e-004	1.0100e-003						3.5911

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2027

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.0000e-004	6.0000e-005	8.4000e-004	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004						0.2577
Total	1.0000e-004	6.0000e-005	8.4000e-004	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004						0.2577

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-003	0.0000	1.5000e-003	1.6000e-004	0.0000	1.6000e-004						0.0000
Off-Road	4.9000e-004	2.1400e-003	0.0305	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						3.5911
Total	4.9000e-004	2.1400e-003	0.0305	4.0000e-005	1.5000e-003	7.0000e-005	1.5700e-003	1.6000e-004	7.0000e-005	2.3000e-004						3.5911

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2027

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.0000e-004	6.0000e-005	8.4000e-004	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004						0.2577
Total	1.0000e-004	6.0000e-005	8.4000e-004	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004						0.2577

3.4 Grading - 2027

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					6.3400e-003	0.0000	6.3400e-003	8.1000e-004	0.0000	8.1000e-004						0.0000
Off-Road	0.0196	0.1739	0.3035	4.7000e-004		8.5500e-003	8.5500e-003		7.8700e-003	7.8700e-003						41.2431
Total	0.0196	0.1739	0.3035	4.7000e-004	6.3400e-003	8.5500e-003	0.0149	8.1000e-004	7.8700e-003	8.6800e-003						41.2431

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2027

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	0.0122	1.1701	0.1976	5.3500e-003	0.1687	0.0108	0.1795	0.0464	0.0103	0.0567						556.4395
Vendor	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	3.7000e-004	5.4700e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4800e-003	6.6000e-004	1.0000e-005	6.7000e-004						1.6748
Total	0.0128	1.1705	0.2031	5.3700e-003	0.1711	0.0108	0.1819	0.0470	0.0103	0.0574						558.1142

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					2.8500e-003	0.0000	2.8500e-003	3.7000e-004	0.0000	3.7000e-004						0.0000
Off-Road	5.7300e-003	0.0249	0.3536	4.7000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004						41.2431
Total	5.7300e-003	0.0249	0.3536	4.7000e-004	2.8500e-003	7.6000e-004	3.6100e-003	3.7000e-004	7.6000e-004	1.1300e-003						41.2431

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 2027****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	0.0122	1.1701	0.1976	5.3500e-003	0.1687	0.0108	0.1795	0.0464	0.0103	0.0567						556.4395
Vendor	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	3.7000e-004	5.4700e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4800e-003	6.6000e-004	1.0000e-005	6.7000e-004						1.6748
Total	0.0128	1.1705	0.2031	5.3700e-003	0.1711	0.0108	0.1819	0.0470	0.0103	0.0574						558.1142

3.5 Building Construction - 2027**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	0.0278	0.2478	0.2879	5.0000e-004		0.0111	0.0111		0.0103	0.0103						43.3334
Total	0.0278	0.2478	0.2879	5.0000e-004		0.0111	0.0111		0.0103	0.0103						43.3334

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2027****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.1000e-004	0.0139	3.3500e-003	6.0000e-005	1.7800e-003	1.1000e-004	1.8900e-003	4.9000e-004	1.1000e-004	6.0000e-004						6.0643
Vendor	2.2000e-004	9.6200e-003	2.9100e-003	4.0000e-005	1.4500e-003	6.0000e-005	1.5100e-003	4.2000e-004	5.0000e-005	4.7000e-004						4.2596
Worker	0.0108	6.4000e-003	0.0954	3.2000e-004	0.0432	1.7000e-004	0.0434	0.0115	1.6000e-004	0.0117						29.2278
Total	0.0112	0.0299	0.1017	4.2000e-004	0.0464	3.4000e-004	0.0468	0.0124	3.2000e-004	0.0127						39.5517

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4900e-003	0.0500	0.3267	5.0000e-004		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004						43.3334
Total	6.4900e-003	0.0500	0.3267	5.0000e-004		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004						43.3334

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2027****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.1000e-004	0.0139	3.3500e-003	6.0000e-005	1.7800e-003	1.1000e-004	1.8900e-003	4.9000e-004	1.1000e-004	6.0000e-004						6.0643
Vendor	2.2000e-004	9.6200e-003	2.9100e-003	4.0000e-005	1.4500e-003	6.0000e-005	1.5100e-003	4.2000e-004	5.0000e-005	4.7000e-004						4.2596
Worker	0.0108	6.4000e-003	0.0954	3.2000e-004	0.0432	1.7000e-004	0.0434	0.0115	1.6000e-004	0.0117						29.2278
Total	0.0112	0.0299	0.1017	4.2000e-004	0.0464	3.4000e-004	0.0468	0.0124	3.2000e-004	0.0127						39.5517

3.5 Building Construction - 2028**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	0.0657	0.5858	0.6805	1.1800e-003		0.0263	0.0263		0.0244	0.0244						102.4245
Total	0.0657	0.5858	0.6805	1.1800e-003		0.0263	0.0263		0.0244	0.0244						102.4245

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2028

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	5.0000e-004	0.0325	7.9200e-003	1.3000e-004	4.2000e-003	2.7000e-004	4.4600e-003	1.1500e-003	2.6000e-004	1.4100e-003						13.9999
Vendor	5.1000e-004	0.0226	6.8200e-003	1.0000e-004	3.4200e-003	1.3000e-004	3.5600e-003	9.9000e-004	1.3000e-004	1.1200e-003						9.8722
Worker	0.0242	0.0140	0.2155	7.3000e-004	0.1021	3.9000e-004	0.1025	0.0272	3.6000e-004	0.0275						67.2703
Total	0.0252	0.0691	0.2302	9.6000e-004	0.1097	7.9000e-004	0.1105	0.0293	7.5000e-004	0.0300						91.1424

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	0.0154	0.1181	0.7722	1.1800e-003		1.8600e-003	1.8600e-003		1.8600e-003	1.8600e-003						102.4244
Total	0.0154	0.1181	0.7722	1.1800e-003		1.8600e-003	1.8600e-003		1.8600e-003	1.8600e-003						102.4244

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2028****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	5.0000e-004	0.0325	7.9200e-003	1.3000e-004	4.2000e-003	2.7000e-004	4.4600e-003	1.1500e-003	2.6000e-004	1.4100e-003						13.9999
Vendor	5.1000e-004	0.0226	6.8200e-003	1.0000e-004	3.4200e-003	1.3000e-004	3.5600e-003	9.9000e-004	1.3000e-004	1.1200e-003						9.8722
Worker	0.0242	0.0140	0.2155	7.3000e-004	0.1021	3.9000e-004	0.1025	0.0272	3.6000e-004	0.0275						67.2703
Total	0.0252	0.0691	0.2302	9.6000e-004	0.1097	7.9000e-004	0.1105	0.0293	7.5000e-004	0.0300						91.1424

3.5 Building Construction - 2029**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	8.8500e-003	0.0789	0.0916	1.6000e-004		3.5400e-003	3.5400e-003		3.2900e-003	3.2900e-003						13.7879
Total	8.8500e-003	0.0789	0.0916	1.6000e-004		3.5400e-003	3.5400e-003		3.2900e-003	3.2900e-003						13.7879

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2029

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	7.0000e-005	4.2900e-003	1.0600e-003	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.6000e-004	3.0000e-005	1.9000e-004						1.8282
Vendor	7.0000e-005	3.0100e-003	9.1000e-004	1.0000e-005	4.6000e-004	2.0000e-005	4.8000e-004	1.3000e-004	2.0000e-005	1.5000e-004						1.2985
Worker	3.0900e-003	1.7600e-003	0.0278	1.0000e-004	0.0137	5.0000e-005	0.0138	3.6500e-003	4.0000e-005	3.7000e-003						8.8370
Total	3.2300e-003	9.0600e-003	0.0298	1.3000e-004	0.0148	1.1000e-004	0.0149	3.9400e-003	9.0000e-005	4.0400e-003						11.9637

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0159	0.1040	1.6000e-004		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004						13.7879
Total	2.0700e-003	0.0159	0.1040	1.6000e-004		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004						13.7879

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2029

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	7.0000e-005	4.2900e-003	1.0600e-003	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.6000e-004	3.0000e-005	1.9000e-004						1.8282
Vendor	7.0000e-005	3.0100e-003	9.1000e-004	1.0000e-005	4.6000e-004	2.0000e-005	4.8000e-004	1.3000e-004	2.0000e-005	1.5000e-004						1.2985
Worker	3.0900e-003	1.7600e-003	0.0278	1.0000e-004	0.0137	5.0000e-005	0.0138	3.6500e-003	4.0000e-005	3.7000e-003						8.8370
Total	3.2300e-003	9.0600e-003	0.0298	1.3000e-004	0.0148	1.1000e-004	0.0149	3.9400e-003	9.0000e-005	4.0400e-003						11.9637

3.6 Paving - 2029

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	8.9900e-003	0.0846	0.1427	2.2000e-004		4.1200e-003	4.1200e-003		3.7900e-003	3.7900e-003						19.7377
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	8.9900e-003	0.0846	0.1427	2.2000e-004		4.1200e-003	4.1200e-003		3.7900e-003	3.7900e-003						19.7377

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2029

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	5.0000e-005	2.9700e-003	7.3000e-004	1.0000e-005	3.9000e-004	2.0000e-005	4.2000e-004	1.1000e-004	2.0000e-005	1.3000e-004						1.2638
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.1000e-004	1.7000e-004	2.7600e-003	1.0000e-005	1.3600e-003	0.0000	1.3700e-003	3.6000e-004	0.0000	3.7000e-004						0.8773
Total	3.6000e-004	3.1400e-003	3.4900e-003	2.0000e-005	1.7500e-003	2.0000e-005	1.7900e-003	4.7000e-004	2.0000e-005	5.0000e-004						2.1411

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7400e-003	0.0119	0.1691	2.2000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004						19.7377
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	2.7400e-003	0.0119	0.1691	2.2000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004						19.7377

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2029

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	5.0000e-005	2.9700e-003	7.3000e-004	1.0000e-005	3.9000e-004	2.0000e-005	4.2000e-004	1.1000e-004	2.0000e-005	1.3000e-004						1.2638
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.1000e-004	1.7000e-004	2.7600e-003	1.0000e-005	1.3600e-003	0.0000	1.3700e-003	3.6000e-004	0.0000	3.7000e-004						0.8773
Total	3.6000e-004	3.1400e-003	3.4900e-003	2.0000e-005	1.7500e-003	2.0000e-005	1.7900e-003	4.7000e-004	2.0000e-005	5.0000e-004						2.1411

3.7 Architectural Coating - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.6076					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	9.7400e-003	0.0711	0.1176	1.9000e-004		2.9100e-003	2.9100e-003		2.8900e-003	2.8900e-003						16.5169
Total	1.6173	0.0711	0.1176	1.9000e-004		2.9100e-003	2.9100e-003		2.8900e-003	2.8900e-003						16.5169

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2029

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	7.7000e-004	4.4000e-004	6.9100e-003	2.0000e-005	3.4100e-003	1.0000e-005	3.4200e-003	9.1000e-004	1.0000e-005	9.2000e-004						2.1933
Total	7.7000e-004	4.4000e-004	6.9100e-003	2.0000e-005	3.4100e-003	1.0000e-005	3.4200e-003	9.1000e-004	1.0000e-005	9.2000e-004						2.1933

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.6076					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	2.4000e-003	0.0256	0.1225	1.9000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004						16.5169
Total	1.6100	0.0256	0.1225	1.9000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004						16.5169

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2029

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	7.7000e-004	4.4000e-004	6.9100e-003	2.0000e-005	3.4100e-003	1.0000e-005	3.4200e-003	9.1000e-004	1.0000e-005	9.2000e-004						2.1933
Total	7.7000e-004	4.4000e-004	6.9100e-003	2.0000e-005	3.4100e-003	1.0000e-005	3.4200e-003	9.1000e-004	1.0000e-005	9.2000e-004						2.1933

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0256	0.0264	0.2507	5.4000e-004	0.0240	3.4000e-004	0.0244	7.4200e-003	3.2000e-004	7.7400e-003						50.8194
Unmitigated	0.0256	0.0264	0.2507	5.4000e-004	0.0240	3.4000e-004	0.0244	7.4200e-003	3.2000e-004	7.7400e-003						50.8194

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	80.16	80.16	80.16	191,558	191,558
Total	80.16	80.16	80.16	191,558	191,558

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.577192	0.056815	0.182253	0.115088	0.020149	0.005398	0.008219	0.006132	0.000852	0.000335	0.024205	0.000837	0.002526

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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						494.6186
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						494.6186
NaturalGas Mitigated	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
NaturalGas Unmitigated	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building +006	4.99446e+006	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
Total		0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072

Mitigated

	NaturalGas s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building +006	4.99446e+006	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
Total		0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	5,29351e+006				494,6186
Total					494,6186

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	5,29351e+006				494,6186
Total					494,6186

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3651	3.0000e-005	2.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8600e-003
Unmitigated	1.3651	3.0000e-005	2.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8600e-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	0.1608					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.2041					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.6000e-004	3.0000e-005	2.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8600e-003
Total	1.3651	3.0000e-005	2.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8600e-003

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1608					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.2041					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.6000e-004	3.0000e-005	2.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8600e-003
Total	1.3651	3.0000e-005	2.8200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8600e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.9003
Unmitigated				1.4992

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.489 / 1.793				1.4992
Total					1.4992

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.293791 / 1.0758				0.9003
Total					0.9003

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				41.7408
Unmitigated				41.7408

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	83				41.7408
Total					41.7408

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	83				41.7408
Total					41.7408

9.0 Operational Offroad

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	::	::	::	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Others	0 / 0				0.0000
Total					0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Microsoft SJC04/06
Santa Clara County, Annual

Table AQ4-6

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	616.60	1000sqft	21.25	616,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2028
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised construction inputs for the non-phased construction project.

Land Use - Approx total floor area of the 2 data center bldgs

Construction Phase - 25 month construction schedule for the entire site with 2 bldgs

Off-road Equipment - Applicant estimates of equipment types, numbers, and use rates.

Off-road Equipment - Applicant estimate of equipment types, numbers, and use rates.

Off-road Equipment - No demolitionis proposed.

Off-road Equipment - Applicant best estimate of equipment type, numbers, use rates.

Off-road Equipment - Applicant best estimate of equipment types, numbers, and use rates.

Off-road Equipment - Applicant best estimate of equipment types, numbers. use rates.

Trips and VMT - Grading haul trips based on 106067 yd3 of export soil at 20 yd3 per load.

Bldg haul trips based concrete required.

Paving haul trips based on asphalt required.

On-road Fugitive Dust - EPA-454/R-23-001w, March 2023, Table 23-2

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Rough grading will occur during site prep phase.

Finish grading will occur during grading/foundation phase.

Site speed limit will be <=5 mph.

Architectural Coating - Defaults assumed

Vehicle Trips - Calculated value for all days (0.315 trips per 1000 sq.ft) based on DC floor area and employee number.

Road Dust - See previous note for silt loading value.

Consumer Products - Defaults assumed

Area Coating - Defaults assumed

Landscape Equipment - Defaults assumed

Energy Use - Defaults assumed

Water And Wastewater - Project values calculated based on employee data and landscaping data.

Solid Waste - Calculated based on 144 employees at 1.15 tpy/employee.

Construction Off-road Equipment Mitigation - Const equipment will meet current T4F stds.

Area Mitigation - Low VOC cleaning supplies and coatings will be used to comply with BAAQMD rules.

Fleet Mix - Best estimate of vehicle mix for operations (employee vehicles).

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_Nonresidential_Exterior	308300	0
tblAreaCoating	Area_Nonresidential_Interior	924900	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	0	150
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	370.00	431.00
tblConstructionPhase	NumDays	20.00	0.00

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	35.00	61.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	10.00	30.00
tblGrading	AcresOfGrading	51.47	10.00
tblGrading	AcresOfGrading	37.69	21.25
tblGrading	MaterialExported	0.00	106,067.00
tblGrading	MeanVehicleSpeed	7.10	5.00
tblGrading	MeanVehicleSpeed	7.10	5.00
tblLandUse	LotAcreage	14.16	21.25
tblOffRoadEquipment	HorsePower	402.00	172.00
tblOffRoadEquipment	HorsePower	402.00	172.00
tblOffRoadEquipment	HorsePower	402.00	172.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	7.50
tblOffRoadEquipment	UsageHours	7.00	3.30
tblOffRoadEquipment	UsageHours	8.00	5.30
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	2.20

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	8.00	7.10
tblOffRoadEquipment	UsageHours	8.00	7.10
tblOffRoadEquipment	UsageHours	8.00	7.10
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	3.70
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblOnRoadDust	RoadSiltLoading	0.10	0.02
tblRoadDust	RoadSiltLoading	0.1	0.02
tblSolidWaste	SolidWasteGenerationRate	573.44	166.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	13,258.00	5,303.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	101.00	4.00
tblVehicleTrips	ST_TR	2.21	0.32
tblVehicleTrips	SU_TR	0.70	0.32
tblVehicleTrips	WD_TR	9.74	0.32
tblWater	IndoorWaterUseRate	109,590,629.01	978,000.00
tblWater	OutdoorWaterUseRate	67,168,450.04	3,586,000.00

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					
2025	0.2188	3.8082	2.3914	0.0154	0.3183	0.0803	0.3986	0.1713	0.0753	0.2466						1,536.6818
2026	1.8919	1.3901	2.2788	4.7300e-003	0.0294	0.0578	0.0872	0.0220	0.0544	0.0764						419.7171
2027	1.5549	0.1609	0.2789	4.6000e-004	6.4000e-004	7.2100e-003	7.8500e-003	4.9000e-004	6.8500e-003	7.3400e-003						40.3526
Maximum	1.8919	3.8082	2.3914	0.0154	0.3183	0.0803	0.3986	0.1713	0.0753	0.2466						1,536.6818

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					
2025	0.1019	2.6564	2.6375	0.0154	0.2875	0.0274	0.3149	0.1100	0.0264	0.1364						1,536.6815
2026	1.7742	0.3348	2.4674	4.7300e-003	0.0717	5.6800e-003	0.0774	0.0220	5.6000e-003	0.0276						419.7168
2027	1.5409	0.0377	0.3098	4.6000e-004	1.5900e-003	6.7000e-004	2.2600e-003	4.9000e-004	6.6000e-004	1.1500e-003						40.3526
Maximum	1.7742	2.6564	2.6375	0.0154	0.2875	0.0274	0.3149	0.1100	0.0264	0.1364						1,536.6815

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	6.78	43.48	-9.40	0.00	-3.58	76.77	20.08	31.61	76.07	50.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2025	3-31-2025	1.8807	1.4440
2	4-1-2025	6-30-2025	1.4071	1.0920
3	7-1-2025	9-30-2025	0.3544	0.0968
4	10-1-2025	12-31-2025	0.3570	0.0995
5	1-1-2026	3-31-2026	0.3476	0.0956
6	4-1-2026	6-30-2026	0.3490	0.0942
7	7-1-2026	9-30-2026	0.3528	0.0953
8	10-1-2026	12-31-2026	2.1647	1.7626
9	1-1-2027	3-31-2027	1.8093	1.6647
		Highest	2.1647	1.7626

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4087	5.0000e-005	5.6500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						0.0117
Energy	0.0539	0.4897	0.4113	2.9400e-003		0.0372	0.0372		0.0372	0.0372						1,525.4517
Mobile	0.0669	0.0699	0.6477	1.4000e-003	0.0592	9.4000e-004	0.0601	0.0183	8.7000e-004	0.0191						130.8998
Waste						0.0000	0.0000		0.0000	0.0000						83.4817
Water						0.0000	0.0000		0.0000	0.0000						2.9984
Total	2.5294	0.5596	1.0646	4.3400e-003	0.0592	0.0382	0.0973	0.0183	0.0381	0.0564						1,742.8433

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	2.2286	5.0000e-005	5.6500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						0.0117
Energy	0.0539	0.4897	0.4113	2.9400e-003		0.0372	0.0372		0.0372	0.0372						1,525.4517
Mobile	0.0669	0.0699	0.6477	1.4000e-003	0.0592	9.4000e-004	0.0601	0.0183	8.7000e-004	0.0191						130.8998
Waste						0.0000	0.0000		0.0000	0.0000						83.4817
Water						0.0000	0.0000		0.0000	0.0000						2.9984
Total	2.3493	0.5596	1.0646	4.3400e-003	0.0592	0.0382	0.0973	0.0183	0.0381	0.0564						1,742.8433

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	7.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2025	12/31/2024	5	0	No demolition proposed
2	Site Preparation	Site Preparation	1/1/2025	2/11/2025	5	30	
3	Grading	Grading	2/12/2025	5/7/2025	5	61	

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	5/8/2025	12/31/2026	5	431
5	Paving	Paving	12/1/2026	1/31/2027	5	44
6	Architectural Coating	Architectural Coating	12/1/2026	1/31/2027	5	44

Acres of Grading (Site Preparation Phase): 21.25**Acres of Grading (Grading Phase): 10****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 924,900; Non-Residential Outdoor: 308,300; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Graders	2	6.70	187	0.41
Site Preparation	Off-Highway Trucks	1	6.70	172	0.38
Site Preparation	Rubber Tired Dozers	1	6.70	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	2	5.30	158	0.38
Grading	Graders	1	2.70	187	0.41
Grading	Off-Highway Trucks	1	8.00	172	0.38
Grading	Rubber Tired Dozers	2	2.70	247	0.40
Grading	Scrapers	1	2.70	367	0.48
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	2	3.30	231	0.29
Building Construction	Forklifts	4	3.20	89	0.20
Building Construction	Generator Sets	2	2.20	84	0.74
Building Construction	Off-Highway Trucks	1	4.10	172	0.38

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Tractors/Loaders/Backhoes	3	3.20	97	0.37
Building Construction	Welders	2	3.70	46	0.45
Paving	Pavers	2	7.10	130	0.42
Paving	Paving Equipment	2	7.10	132	0.36
Paving	Rollers	2	7.10	80	0.38
Paving	Tractors/Loaders/Backhoes	1	5.90	97	0.37
Architectural Coating	Aerial Lifts	2	7.10	63	0.31
Architectural Coating	Air Compressors	4	7.50	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	1.00	5,303.00	10.80	7.30	150.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	197.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2025****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					0.0812	0.0000	0.0812	0.0421	0.0000	0.0421						0.0000
Off-Road	0.0230	0.2295	0.1928	4.4000e-004		9.0000e-003	9.0000e-003		8.2800e-003	8.2800e-003						38.7233
Total	0.0230	0.2295	0.1928	4.4000e-004	0.0812	9.0000e-003	0.0902	0.0421	8.2800e-003	0.0504						38.7233

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
Vendor	2.0000e-005	6.7000e-004	2.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	2.0000e-005	0.0000	2.0000e-005						0.3016
Worker	5.0000e-004	3.2000e-004	4.3900e-003	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	1.8000e-004	1.0000e-005	1.9000e-004						1.2823
Total	5.2000e-004	9.9000e-004	4.5900e-003	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	2.0000e-004	1.0000e-005	2.1000e-004						1.5839

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2025****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					0.0366	0.0000	0.0366	0.0189	0.0000	0.0189						0.0000
Off-Road	5.3600e-003	0.0232	0.2468	4.4000e-004		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004						38.7232
Total	5.3600e-003	0.0232	0.2468	4.4000e-004	0.0366	7.1000e-004	0.0373	0.0189	7.1000e-004	0.0197						38.7232

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
Vendor	2.0000e-005	6.7000e-004	2.0000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	2.0000e-005	0.0000	2.0000e-005						0.3016
Worker	5.0000e-004	3.2000e-004	4.3900e-003	1.0000e-005	6.0000e-004	1.0000e-005	6.1000e-004	1.8000e-004	1.0000e-005	1.9000e-004						1.2823
Total	5.2000e-004	9.9000e-004	4.5900e-003	1.0000e-005	6.5000e-004	1.0000e-005	6.6000e-004	2.0000e-004	1.0000e-005	2.1000e-004						1.5839

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 2025****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					0.1326	0.0000	0.1326	0.0693	0.0000	0.0693						0.0000
Off-Road	0.0438	0.3951	0.4842	9.2000e-004		0.0169	0.0169		0.0155	0.0155						81.6593
Total	0.0438	0.3951	0.4842	9.2000e-004	0.1326	0.0169	0.1495	0.0693	0.0155	0.0848						81.6593

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	0.0249	2.3874	0.3926	0.0112	0.0847	0.0219	0.1066	0.0451	0.0209	0.0660						1,162.546 1
Vendor	3.0000e-005	1.3500e-003	4.1000e-004	1.0000e-005	6.0000e-005	1.0000e-005	7.0000e-005	3.0000e-005	1.0000e-005	4.0000e-005						0.6133
Worker	1.5500e-003	9.8000e-004	0.0137	4.0000e-005	7.5000e-004	3.0000e-005	7.8000e-004	5.7000e-004	2.0000e-005	6.0000e-004						3.9978
Total	0.0265	2.3898	0.4067	0.0112	0.0855	0.0219	0.1074	0.0457	0.0210	0.0666						1,167.157 2

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 2025****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					0.0597	0.0000	0.0597	0.0312	0.0000	0.0312						0.0000
Off-Road	0.0113	0.0491	0.5755	9.2000e-004		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003						81.6593
Total	0.0113	0.0491	0.5755	9.2000e-004	0.0597	1.5100e-003	0.0612	0.0312	1.5100e-003	0.0327						81.6593

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	0.0249	2.3874	0.3926	0.0112	0.1431	0.0219	0.1650	0.0451	0.0209	0.0660						1,162.546 1
Vendor	3.0000e-005	1.3500e-003	4.1000e-004	1.0000e-005	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	4.0000e-005						0.6133
Worker	1.5500e-003	9.8000e-004	0.0137	4.0000e-005	1.8700e-003	3.0000e-005	1.8900e-003	5.7000e-004	2.0000e-005	6.0000e-004						3.9978
Total	0.0265	2.3898	0.4067	0.0112	0.1450	0.0219	0.1669	0.0457	0.0210	0.0666						1,167.157 2

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2025****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	0.0877	0.7542	0.9714	1.6800e-003		0.0319	0.0319		0.0299	0.0299						145.2917
Total	0.0877	0.7542	0.9714	1.6800e-003		0.0319	0.0319		0.0299	0.0299						145.2917

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
Vendor	3.5000e-004	0.0151	4.6100e-003	7.0000e-005	6.6000e-004	9.0000e-005	7.5000e-004	3.5000e-004	9.0000e-005	4.4000e-004						6.8369
Worker	0.0369	0.0235	0.3270	1.0300e-003	0.0180	6.0000e-004	0.0186	0.0137	5.5000e-004	0.0142						95.4295
Total	0.0373	0.0386	0.3316	1.1000e-003	0.0187	6.9000e-004	0.0194	0.0140	6.4000e-004	0.0147						102.2664

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

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	0.0209	0.1548	1.0723	1.6800e-003		2.5600e-003	2.5600e-003		2.5600e-003	2.5600e-003						145.2915
Total	0.0209	0.1548	1.0723	1.6800e-003		2.5600e-003	2.5600e-003		2.5600e-003	2.5600e-003						145.2915

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
Vendor	3.5000e-004	0.0151	4.6100e-003	7.0000e-005	1.0300e-003	9.0000e-005	1.1200e-003	3.5000e-004	9.0000e-005	4.4000e-004						6.8369
Worker	0.0369	0.0235	0.3270	1.0300e-003	0.0446	6.0000e-004	0.0451	0.0137	5.5000e-004	0.0142						95.4295
Total	0.0373	0.0386	0.3316	1.1000e-003	0.0456	6.9000e-004	0.0463	0.0140	6.4000e-004	0.0147						102.2664

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2026****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	0.1346	1.1580	1.4914	2.5800e-003		0.0489	0.0489		0.0459	0.0459						223.0655
Total	0.1346	1.1580	1.4914	2.5800e-003		0.0489	0.0489		0.0459	0.0459						223.0655

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
Vendor	5.3000e-004	0.0230	6.9800e-003	1.0000e-004	1.0200e-003	1.4000e-004	1.1500e-003	5.4000e-004	1.3000e-004	6.7000e-004						10.3103
Worker	0.0537	0.0329	0.4743	1.5400e-003	0.0277	8.7000e-004	0.0285	0.0210	8.0000e-004	0.0218						142.0424
Total	0.0542	0.0559	0.4813	1.6400e-003	0.0287	1.0100e-003	0.0297	0.0215	9.3000e-004	0.0224						152.3528

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2026****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	0.0322	0.2376	1.6462	2.5800e-003		3.9300e-003	3.9300e-003		3.9300e-003	3.9300e-003						223.0652
Total	0.0322	0.2376	1.6462	2.5800e-003		3.9300e-003	3.9300e-003		3.9300e-003	3.9300e-003						223.0652

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
Vendor	5.3000e-004	0.0230	6.9800e-003	1.0000e-004	1.5800e-003	1.4000e-004	1.7100e-003	5.4000e-004	1.3000e-004	6.7000e-004						10.3103
Worker	0.0537	0.0329	0.4743	1.5400e-003	0.0684	8.7000e-004	0.0693	0.0210	8.0000e-004	0.0218						142.0424
Total	0.0542	0.0559	0.4813	1.6400e-003	0.0700	1.0100e-003	0.0710	0.0215	9.3000e-004	0.0224						152.3528

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2026****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	0.0105	0.0989	0.1677	2.6000e-004		4.7300e-003	4.7300e-003		4.3500e-003	4.3500e-003						22.9402
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	0.0105	0.0989	0.1677	2.6000e-004		4.7300e-003	4.7300e-003		4.3500e-003	4.3500e-003						22.9402

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.3000e-004	2.6000e-004	3.8200e-003	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	1.7000e-004	1.0000e-005	1.8000e-004						1.1437
Total	4.3000e-004	2.6000e-004	3.8200e-003	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	1.7000e-004	1.0000e-005	1.8000e-004						1.1437

Microsoft SJC04/06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2026****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	3.1800e-003	0.0138	0.1964	2.6000e-004		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004						22.9402
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	3.1800e-003	0.0138	0.1964	2.6000e-004		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004						22.9402

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.3000e-004	2.6000e-004	3.8200e-003	1.0000e-005	5.5000e-004	1.0000e-005	5.6000e-004	1.7000e-004	1.0000e-005	1.8000e-004						1.1437
Total	4.3000e-004	2.6000e-004	3.8200e-003	1.0000e-005	5.5000e-004	1.0000e-005	5.6000e-004	1.7000e-004	1.0000e-005	1.8000e-004						1.1437

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2027****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	9.5500e-003	0.0903	0.1531	2.4000e-004		4.3200e-003	4.3200e-003		3.9700e-003	3.9700e-003						20.9454
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	9.5500e-003	0.0903	0.1531	2.4000e-004		4.3200e-003	4.3200e-003		3.9700e-003	3.9700e-003						20.9454

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.7000e-004	2.2000e-004	3.3100e-003	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	1.5000e-004	1.0000e-005	1.6000e-004						1.0145
Total	3.7000e-004	2.2000e-004	3.3100e-003	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	1.5000e-004	1.0000e-005	1.6000e-004						1.0145

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2027****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9100e-003	0.0126	0.1793	2.4000e-004		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004						20.9454
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	2.9100e-003	0.0126	0.1793	2.4000e-004		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004						20.9454

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.7000e-004	2.2000e-004	3.3100e-003	1.0000e-005	5.0000e-004	1.0000e-005	5.1000e-004	1.5000e-004	1.0000e-005	1.6000e-004						1.0145
Total	3.7000e-004	2.2000e-004	3.3100e-003	1.0000e-005	5.0000e-004	1.0000e-005	5.1000e-004	1.5000e-004	1.0000e-005	1.6000e-004						1.0145

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.7 Architectural Coating - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.6807					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	0.0105	0.0765	0.1263	2.1000e-004		3.1400e-003	3.1400e-003		3.1300e-003	3.1300e-003						17.7370
Total	1.6912	0.0765	0.1263	2.1000e-004		3.1400e-003	3.1400e-003		3.1300e-003	3.1300e-003						17.7370

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	9.4000e-004	5.7000e-004	8.2700e-003	3.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	3.7000e-004	1.0000e-005	3.8000e-004						2.4780
Total	9.4000e-004	5.7000e-004	8.2700e-003	3.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	3.7000e-004	1.0000e-005	3.8000e-004						2.4780

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.7 Architectural Coating - 2026****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.6807					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	2.5500e-003	0.0267	0.1314	2.1000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004						17.7369
Total	1.6832	0.0267	0.1314	2.1000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004						17.7369

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	9.4000e-004	5.7000e-004	8.2700e-003	3.0000e-005	1.1900e-003	2.0000e-005	1.2100e-003	3.7000e-004	1.0000e-005	3.8000e-004						2.4780
Total	9.4000e-004	5.7000e-004	8.2700e-003	3.0000e-005	1.1900e-003	2.0000e-005	1.2100e-003	3.7000e-004	1.0000e-005	3.8000e-004						2.4780

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.7 Architectural Coating - 2027****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5345					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	9.6000e-003	0.0698	0.1153	1.9000e-004		2.8700e-003	2.8700e-003		2.8600e-003	2.8600e-003						16.1946
Total	1.5441	0.0698	0.1153	1.9000e-004		2.8700e-003	2.8700e-003		2.8600e-003	2.8600e-003						16.1946

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	8.1000e-004	4.8000e-004	7.1700e-003	2.0000e-005	4.4000e-004	1.0000e-005	4.5000e-004	3.3000e-004	1.0000e-005	3.5000e-004						2.1981
Total	8.1000e-004	4.8000e-004	7.1700e-003	2.0000e-005	4.4000e-004	1.0000e-005	4.5000e-004	3.3000e-004	1.0000e-005	3.5000e-004						2.1981

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.7 Architectural Coating - 2027****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5345					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	2.3300e-003	0.0244	0.1200	1.9000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004						16.1946
Total	1.5369	0.0244	0.1200	1.9000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004						16.1946

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	8.1000e-004	4.8000e-004	7.1700e-003	2.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	3.3000e-004	1.0000e-005	3.5000e-004						2.1981
Total	8.1000e-004	4.8000e-004	7.1700e-003	2.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	3.3000e-004	1.0000e-005	3.5000e-004						2.1981

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0669	0.0699	0.6477	1.4000e-003	0.0592	9.4000e-004	0.0601	0.0183	8.7000e-004	0.0191						130.8998
Unmitigated	0.0669	0.0699	0.6477	1.4000e-003	0.0592	9.4000e-004	0.0601	0.0183	8.7000e-004	0.0191						130.8998

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	197.31	197.31	197.31	471,527	471,527
Total	197.31	197.31	197.31	471,527	471,527

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576295	0.056490	0.183529	0.114985	0.020137	0.005304	0.008188	0.006136	0.000868	0.000349	0.024273	0.000862	0.002585

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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						989.2372
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						989.2372
NaturalGas Mitigated	0.0539	0.4897	0.4113	2.9400e-003		0.0372	0.0372		0.0372	0.0372						536.2144
NaturalGas Unmitigated	0.0539	0.4897	0.4113	2.9400e-003		0.0372	0.0372		0.0372	0.0372						536.2144

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGas s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr											MT/yr				
General Office Building +006	9.98892e+006	0.0539	0.4897	0.4113	2.9400e-003		0.0372	0.0372		0.0372	0.0372						536.2144
Total		0.0539	0.4897	0.4113	2.9400e-003		0.0372	0.0372		0.0372	0.0372						536.2144

Mitigated

	NaturalGas s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr											MT/yr				
General Office Building +006	9.98892e+006	0.0539	0.4897	0.4113	2.9400e-003		0.0372	0.0372		0.0372	0.0372						536.2144
Total		0.0539	0.4897	0.4113	2.9400e-003		0.0372	0.0372		0.0372	0.0372						536.2144

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	1.0587e+007				989.2372
Total					989.2372

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	1.0587e+007				989.2372
Total					989.2372

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2286	5.0000e-005	5.6500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						0.0117
Unmitigated	2.4087	5.0000e-005	5.6500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						0.0117

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	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	2.4081					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	5.2000e-004	5.0000e-005	5.6500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						0.0117
Total	2.4087	5.0000e-005	5.6500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						0.0117

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	2.2281					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	5.2000e-004	5.0000e-005	5.6500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						0.0117
Total	2.2286	5.0000e-005	5.6500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						0.0117

7.0 Water Detail**7.1 Mitigation Measures Water**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				2.9984
Unmitigated				2.9984

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.978 / 3.586				2.9984
Total					2.9984

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.978 / 3.586				2.9984
Total					2.9984

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				83.4817
Unmitigated				83.4817

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	166				83,4817
Total					83,4817

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	166				83,4817
Total					83,4817

9.0 Operational Offroad

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

MSDC Reclaim Water Line

Santa Clara County, Annual

Table AQ4-7

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	15.84	1000sqft	2.73	15,840.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2026
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Analysis is for the offsite reclaim water line construction only. No operational emissions are calculated.

Land Use - Trench assumed sfc area =~15840 sq.ft. Corridor assumed sfc area is 2.73 acres.

Construction Phase - Best estimate of water line construction time.

Off-road Equipment - Best estimate of equipment and use rates.

Grading - No cut and fill hauling will occur. Trench cut material will be placed back into the trench subsequent to line installation.

Demolition - No demolition will occur.

Trips and VMT - Assumed 8000 ft of piping required (which includes the end stubs and connectors), avg section length is 25 ft. Total sections required =~ 320. Assumed 40 sections per delivery. Total haul deliveries = 8.

Worker trips calculated by CalEEMod.

On-road Fugitive Dust - Defaults used.

Architectural Coating - No coatings required.

Vehicle Trips - No operational vehicle trips are required.

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Fleet Mix - No operational vehicle trips are required.

Road Dust - No Unpaved roads will service the pipeline subsequent to installation.

Consumer Products - No consumer products required for pipeline operations.

Area Coating - No arch coatings required for pipeline operations.

Landscape Equipment - No landscaping req'd for pipeline operations.

Energy Use - Reclaim water pumping energy is included in the SJC04 analysis.

Water And Wastewater - See SJC04 analysis.

Solid Waste - No solid waste generation for water pipeline.

Construction Off-road Equipment Mitigation - Same mitigation as SJC04.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	7920	0
tblAreaCoating	Area_Nonresidential_Interior	23760	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	PhaseEndDate	4/10/2025	7/4/2025
tblConstructionPhase	PhaseStartDate	4/3/2025	3/1/2025
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	3.08	0.00

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.32	0.00
tblEnergyUse	T24NG	19.51	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LotAcreage	0.36	2.73
tblOffRoadEquipment	HorsePower	158.00	187.00
tblOffRoadEquipment	HorsePower	89.00	247.00
tblOffRoadEquipment	LoadFactor	0.38	0.41
tblOffRoadEquipment	LoadFactor	0.20	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	19.64	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	59.00	0.00

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	100.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	3,663,000.00	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
2025	0.0239	0.1953	0.2579	6.5000e-004	4.7100e-003	8.0600e-003	0.0128	1.2500e-003	7.4200e-003	8.6700e-003						57.5940
Maximum	0.0239	0.1953	0.2579	6.5000e-004	4.7100e-003	8.0600e-003	0.0128	1.2500e-003	7.4200e-003	8.6700e-003						57.5940

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					
2025	8.7900e-003	0.0338	0.3571	6.5000e-004	4.7100e-003	1.0200e-003	5.7300e-003	1.2500e-003	1.0200e-003	2.2700e-003						57.5939
Maximum	8.7900e-003	0.0338	0.3571	6.5000e-004	4.7100e-003	1.0200e-003	5.7300e-003	1.2500e-003	1.0200e-003	2.2700e-003						57.5939

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	63.21	82.68	-38.45	0.00	0.00	87.34	55.13	0.00	86.25	73.82	0.00	0.00	0.00	0.00	0.00	0.00

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2025	5-31-2025	0.1601	0.0311
2	6-1-2025	8-31-2025	0.0591	0.0115
		Highest	0.1601	0.0311

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Waste						0.0000	0.0000		0.0000	0.0000						0.0000
Water						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

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Waste						0.0000	0.0000		0.0000	0.0000						0.0000
Water						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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching, pipe install, finishing	Trenching	3/1/2025	7/4/2025	5	90	Water line construction

Acres of Grading (Site Preparation Phase): 0

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching, pipe install, finishing	Rollers	1	1.80	80	0.38
Trenching, pipe install, finishing	Other Construction Equipment	1	2.80	172	0.42
Trenching, pipe install, finishing	Excavators	1	6.20	187	0.41
Trenching, pipe install, finishing	Forklifts	1	3.10	247	0.40
Trenching, pipe install, finishing	Tractors/Loaders/Backhoes	1	6.20	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching, pipe install, finishing	5	13.00	0.00	8.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching, pipe install, finishing - 2025

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	0.0226	0.1939	0.2464	6.1000e-004		8.0400e-003	8.0400e-003		7.3900e-003	7.3900e-003						54.0177
Total	0.0226	0.1939	0.2464	6.1000e-004		8.0400e-003	8.0400e-003		7.3900e-003	7.3900e-003						54.0177

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	1.0000e-005	5.4000e-004	1.3000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005						0.2423
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.2900e-003	8.2000e-004	0.0114	4.0000e-005	4.6400e-003	2.0000e-005	4.6600e-003	1.2300e-003	2.0000e-005	1.2500e-003						3.3339
Total	1.3000e-003	1.3600e-003	0.0116	4.0000e-005	4.7100e-003	2.0000e-005	4.7300e-003	1.2500e-003	2.0000e-005	1.2700e-003						3.5762

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching, pipe install, finishing - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4900e-003	0.0325	0.3455	6.1000e-004		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003						54.0177
Total	7.4900e-003	0.0325	0.3455	6.1000e-004		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003						54.0177

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	1.0000e-005	5.4000e-004	1.3000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005						0.2423
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.2900e-003	8.2000e-004	0.0114	4.0000e-005	4.6400e-003	2.0000e-005	4.6600e-003	1.2300e-003	2.0000e-005	1.2500e-003						3.3339
Total	1.3000e-003	1.3600e-003	0.0116	4.0000e-005	4.7100e-003	2.0000e-005	4.7300e-003	1.2500e-003	2.0000e-005	1.2700e-003						3.5762

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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 Heavy Industry	0.00	0.00	0.00	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 Heavy Industry	0.574685	0.056097	0.185093	0.115164	0.020188	0.005209	0.008091	0.006312	0.000884	0.000364	0.024358	0.000887	0.002668

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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
Electricity Unmitigated						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
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

		NaturalGa s 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 Heavy 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
Total		0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000

Mitigated

		NaturalGa s 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 Heavy 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
Total		0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0				0.0000
Total					0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0				0.0000
Total					0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	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

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	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

7.0 Water Detail**7.1 Mitigation Measures Water**

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.0000
Unmitigated				0.0000

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0				0.0000
Total					0.0000

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0				0.0000
Total					0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				0.0000
Unmitigated				0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0				0.0000
Total					0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0				0.0000
Total					0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

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

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

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Appendix AQ5

Risk Assessment Support Data

Table AQ5-1 Sensitive Receptors and Distances from Site*(all sites and coordinates from Google Earth unless otherwise noted)*

Image Date: Sept 2020

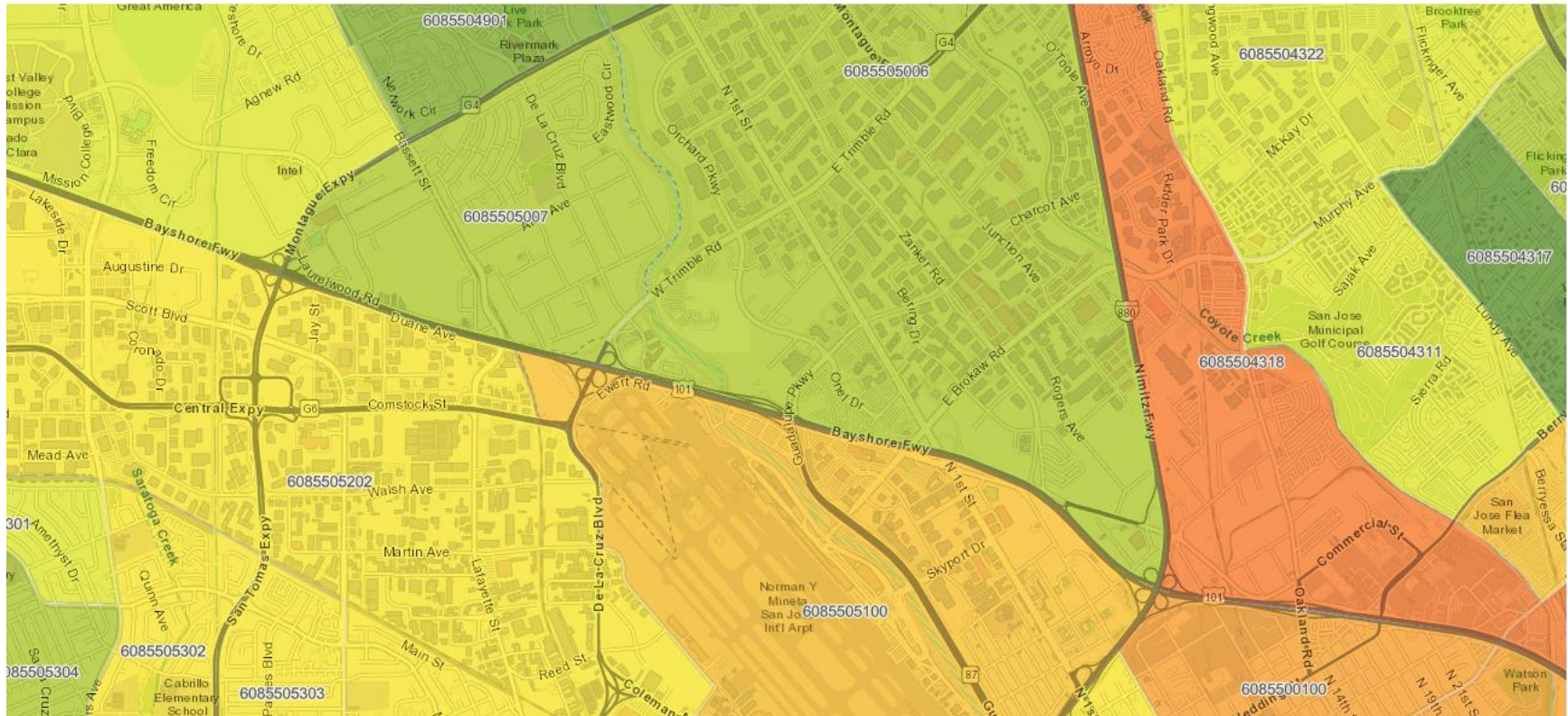
Microsoft Data Center

Receptor ID	UTM Em	UTM Nm	Distance from Stack Mid-point		
			meters	feet	miles
Site (approx. mid-point)	594479.00	4137366.00	na	na	
School	593427.00	4138428.00	1494.8	4904.3	0.93
Residences	593272.00	4138238.00	1489.0	4885.3	0.93
Residences	593043.00	4136927.00	1501.6	4926.5	0.93
Worker	594615.00	4137225.00	195.9	642.7	0.12
Worker	594376.00	4137506.00	173.8	570.2	0.11
Worker	594179.00	4137176.00	355.1	1165.0	0.22
Residences	596126.00	4135608.00	2409.0	7903.5	1.50
Residences	596351.00	4135774.00	2457.4	8062.4	1.53
Apartments	596327.00	4136003.00	2296.3	7533.7	1.43
Apartments	596035.00	4136253.00	1913.1	6276.5	1.19
College	590092.00	4138749.00	4599.8	15091.3	2.86
Apartments	596387.00	4136788.00	1993.6	6540.8	1.24

There were no identified hospitals, convalescent care facilities, daycare centers, etc., within 1000 ft. of the facility boundary.

This list represents identified sensitive receptors that are located close to the site. It should not be assumed that the PMI, MEIR or MEIW will be a receptor on this list. These important HRA locations will be determined from the modeling grid and HRA output. With respect to the MEIS, this location will most likely be one of the receptors on the above list, since the list contains the identified nearfield schools.

Figure AQ5-1 CalEnviroScreen 4.0 Area Surrounding MBGF/SJC04/06



(See Table AQ5-2)

Table AQ5-2

CalEnviroScreen Survey Results

Area ID #	Direction from Site	Distance from Site, ft.	%tile Rating
Site 6085505007	NA	NA	39%
6085504318	East	8200	80%
6085505100	South*	750	69%
6085505202	West/Southwest	3400	60%
6085505001	Northwest	6700	44%
6085505901	North	6300	25%
*San Jose Int'l Airport All distances scaled form Google Earth image on 6/15/2022.			

ATTACHMENT LU DR-85

City of San Jose No Further Comment Letters

Gee, Cameron

From: Rivera, Monika
Sent: Thursday, April 11, 2024 12:37 PM
To: Gee, Cameron
Cc: solidwasteplanreview
Subject: CP23-008 (fourth submittal) ESD IWM Comments

Hi Cameron,

ESD IWM has completed review for CP23-008 fourth submittal. No further comments are needed.

Thanks,

Monika Rivera, Environmental Services Specialist
Integrated Waste Management Division
City of San José | Environmental Services Department
408.975.2502 | monika.rivera@sanjoseca.gov

April 30, 2024

Chad Mendell
Environmental Systems Design
cmendell@esdglobal.com

LOCATION AND ADDRESS: Southwest of the intersection between Orchard Parkway and Component Drive at an unaddressed parcel on Orchard Parkway (APN 101-02-020)

RE. File Nos. CP23-008, AT22-025, & ER22-275: Conditional Use Permit to allow the removal of 18 trees (10 ordinance-size and eight non-ordinance-size) for the construction of two four-story data center buildings totaling approximately 630,000 square feet, three water storage tanks, two one-story utility buildings, a customer-owned power substation, a PG&E-owned high voltage switching station, and associated site improvements on a 22.29-gross-acre site.

Dear Chad Mendell,

Your application, referenced above, has undergone review for completeness and consistency with City policies and regulations. The purpose of this letter is to provide you with comments and revisions necessary for the project to meet City policies and ordinances so you can appropriately respond to the issues identified below. The comments below are based on the plans and information currently on file. Additional comments may be made at a later time when we receive revised plans and additional information. Please let me know if you have any questions regarding these comments.

Project Issues and Concerns

Based on review of your application, the items listed below are substantial issues that would affect the proposed project. These issues are explained in more detail in this letter:

1. No further comments are requested by Planning at this time. Please note that a community meeting and the completion of the project's environmental review are required before the project can be scheduled for a Planning Commission hearing.

Project Review

1. Project Description

The proposed project consists of a Conditional Use Permit to allow the removal of 18 trees (10 ordinance-size and eight non-ordinance-size) for the construction of two four-story data center buildings totaling approximately 630,000 square feet, three water storage tanks, two one-story utility buildings, a customer-owned power substation, and a PG&E-owned high voltage

switching station. Associated site improvements include a guardhouse at the campus entrance, two vehicular access routes (one for passenger vehicles and one for delivery trucks), and gated access points. The approximately 22.29-gross-acre site is located within the CIC Combined Industrial/Commercial Zoning District.

A Lot Line Adjustment (AT22-025) has been approved by the Director of Planning and shall be recorded following approval of this Conditional Use Permit.

Please confirm the description above includes all aspects of the proposed project and advise us immediately if any information is incorrect or omitted.

The following issues have either been addressed or were outstanding as of the last review cycle:

2. Zoning Consistency

The subject site located within in the **CIC Combined Industrial/Commercial** Zoning District (File No. C18-042).

Stand-By/Backup Electrical Power Generation

Pursuant to [Section 20.80.2030\(B\)](#), the project is subject to the remaining standards for stand-by and back-up electrical power generation uses:

1. A Bay Area Air Quality Management District (BAAQMD) permit has been issued for the use or facility.

Analysis: After further discussion with environmental review staff, documentation of an issued BAAQMD permit will not be required before the project can be scheduled for hearing.

Vehicle Parking Requirements

It is understood that the project will be reviewed against the old parking code requirements, as the project was deemed complete prior to the new parking code's effective date of April 10, 2023. The old parking requirements are outlined below. Note that the data center square footages for both buildings are combined. The guardhouse is considered incidental and not included in the calculations.

Use	Net Square Footage/Employees	Ratio	Required
Data Center	16,308 square feet	1 per 250 square feet of office/ meeting/ technician workspace	66 spaces
	519,922 square feet	1 per 5,000 square feet of floor area, or fraction thereof, devoted to computer equipment space	104 spaces
Utility facilities, excluding corporation yards, storage or	0 employees on site	1 per 1.5 employees, plus 1 per company	0 spaces

repair yards and warehouses		vehicle	
Total Required			170 spaces
Total Provided			148 spaces
Parking Reduction			18.8%

Analysis: A total of 170 vehicle parking spaces are required based on the calculations above. The project would provide 148 vehicle parking spaces, resulting in a parking reduction of approximately 18.8%. Pursuant to Section 20.90.220.A of the old parking code, the project qualifies for a parking reduction of up to 20% as the site is located within 2,000 feet of an existing rail station (Component Station served by VTA Blue and Green Lines). It has been confirmed that there are no employees or company vehicles regularly on site for the water tanks, electrical substation, switching station, and other utility facilities.

Bicycle Parking Requirements

Use	Net Square Footage/Employees	Ratio	Required
Data Center	16,308 square feet	1 per 5,000 square feet of office/ meeting/ technician workspace	4 spaces
	519,922 square feet	1 per 50,000 square feet of floor area, or fraction thereof devoted to computer equipment space	11 spaces
Utility facilities, excluding corporation yards, storage or repair yards and warehouses	0 employees on site	1 per 10 full-time employees	0 spaces
Total Required			15 spaces
Total Provided			16 spaces

Analysis: The project provides 16 bicycle parking spaces (14 short-term and two long-term). This meets the above requirement.

3. Applicable City Council Development Policies

Community Outreach and On-Site Noticing

The proposed project is subject to [Council Policy 6-30: Public Outreach Policy for Pending Land Use and Development Proposals](#), which discusses community meetings and on-site noticing.

A community meeting has been scheduled for the project on Monday, June 3 at 6:00 p.m. Staff will coordinate with the applicant as the date approaches.

The on-site sign has been posted on the property as of April 11, 2024.

4. Citywide Design Standards and Guidelines

The project is also subject to the [Citywide Design Standards and Guidelines](#). The following standards and guidelines are applicable to the proposed project.

- 2.3.8 (S1) Select trees which at maturity create a tree canopy cover that shades a minimum of 50 percent of each on-site surface parking area, common open space at the ground floor, and Privately-owned (and maintained) Public Open Space (see Fig. 2.37).

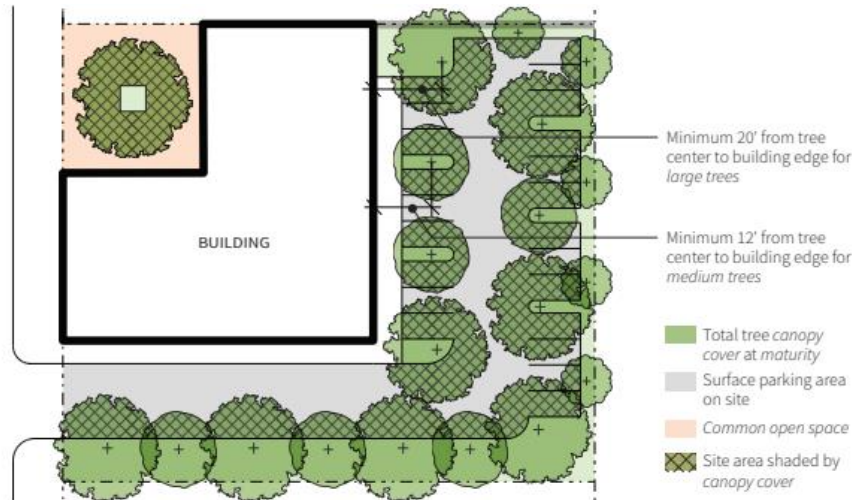


Fig. 2.37 Select trees to create a canopy cover that shades a minimum of 50 percent of all on-site parking areas and common open spaces.

Analysis: A formal exception request has been accepted by the City, allowing a tree canopy cover of less than 50 percent. No further action is needed.

5. Environmental Review - California Environmental Quality Act (CEQA)

It is understood that the project is under environmental review with the California Energy Commission (as a Small Power Plant Exemption Application) and that the CEC is working as the lead agency on a draft environmental document for the project. The City will coordinate the review of the environmental document with the CEC and intends to use the prepared document as a responsible agency. Should you, your environmental consultant, or the CEC have any questions regarding the project's environmental review, please contact Cort Hitchens at cort.hitchens@sanjoseca.gov.

6. Next Steps

Please be aware that additional fees may be assessed at a later date. Fees for community meetings, for additional public noticing requirements, and for other processes/reviews included in the adopted fee schedule may be applicable to this proposal. I will inform you as soon as any of these fees would be applicable. The project will not be brought to hearing and may be deferred until all fees have been paid in full.

Note that the base fee invoiced at the intake of the project includes three cycles of review. Any additional cycles would be subject to a Supplemental Review Fee, which is 30% of the base Planning project fee. Addressing all project comments limits additional cycles of review.

The decision to approve, deny, or conditionally approve this Conditional Use Permit proposal

will occur at a **Planning Commission Hearing**, appealable to the City Council.

Should you have any questions, you may contact me at cameron.gee@sanjoseca.gov or (408) 535-6807. You can also contact the Supervising Planner overseeing this project, Laura Meiners, at laura.meiners@sanjoseca.gov.

We look forward to continuing to work with you and your team on this project in San José.

Sincerely,

A handwritten signature in black ink, appearing to read "Cameron Gee". The signature is fluid and cursive, with a large initial "C" and a stylized "G".

Cameron Gee
Project Manager

ATTACHMENT LU DR-86

Airport CLUP Consistency Table

Table DR-86: Project Consistency with CLUP Policies

Policy	Project Consistency with Policy
General Compatibility	
G-1 In the case of conflicting policies, the most restrictive policy shall be applied.	Consistent where applicable.
G-2 If a project falls into an area within two or more Airport Influence Areas (AIA), the most restrictive conditions from each separate airport CLUP shall apply to the project.	Not applicable. The Project Site is only located in the AIA for San Jose Mineta International Airport.
G-3 The Airport is exempt from the policies of this CLUP for the development of projects on airport property that are directly related to airport operations (examples: terminals, FBOs, fuel storage, passenger and employee parking). This policy does not relieve the Airport of its other obligations to the ALUC, such as providing Airport Master Plan Updates for ALUC review.	Not applicable. The Project is not located on airport property.
G-4 Local jurisdictions should encourage the conversion of land uses that are currently incompatible with this CLUP to uses that are compatible, where feasible.	Not applicable. The current land use and proposed land use are both compatible with the CLUP.
G-5 Where legally allowed, dedication of an avigation easement to the City of San Jose shall be required to be offered as a condition of approval on all projects located within an Airport Influence Area, other than reconstruction projects as defined in paragraph 4.3.7. All such easements shall be similar to that shown as Exhibit 1 in Appendix A.	Consistent. The Project Site is already subject to an avigation easement, which was issued in 1977 for parcels of property that include the Project Site. The terms of the Avigation Easement provide that subsequent property owners are bound by the Avigation Easement as it “runs with the land”.
G-6 Any proposed uses that may cause a hazard to aircraft in flight are not permitted within the AIA. Such uses include electrical interference, high intensity lighting, attraction of birds (certain agricultural uses, sanitary landfills), and activities that may produce smoke, dust, or glare. This policy requires the height at maturity of newly planted trees to be considered to avoid future penetration of the FAA FAR Part 77 Surfaces.	Consistent. The Project was reviewed by the FAA and received a Determination of No Hazard.
G-7 All new exterior lighting or large video displays within the AIA shall be designed so as to create no interference with aircraft operations. Such lighting shall be constructed and located so that only the intended area is illuminated and off-site glare is	Consistent. The Project includes measures that would minimize exterior lighting to the extent feasible, except as needed for safety/security. All exterior lights shall be shielded and directed toward

Policy	Project Consistency with Policy
fully controlled. The lighting shall be arrayed in such a manner that it cannot be mistaken for airport approach or runway lights by pilots.	facilities on the Project Site to ensure that light is not directed upward or outward (refer to PDF BIO-2.1).
Noise Compatibility	
N-1 The Community Noise Equivalent Level (CNEL) method of representing noise levels shall be used to determine if a specific land use is consistent with the CLUP.	Consistent. As described in the SPPE Application, the Project Site is exposed to noise levels between 65 and 70 dBA CNEL because of activities at the Airport.
N-2 In addition to the other policies herein, the Noise Compatibility Policies presented in Table 4-1 shall be used to determine if a specific land use is consistent with this CLUP.	Consistent. As shown on Table 4-1 of the CLUP, Industrial uses such as the proposed Project are considered "Generally Acceptable" in the 65-70 CNEL range.
N-3 Noise impacts shall be evaluated according to the Aircraft Noise Contours presented on Figure 5.	Consistent. Aircraft noise levels at the Project Site were determined utilizing the most current Aircraft Noise Contours.
N-4 No residential or transient lodging construction shall be permitted within the 65 dB CNEL contour boundary unless it can be demonstrated that the resulting interior sound levels will be less than 45 dB CNEL and there are no outdoor patios or outdoor activity areas associated with the residential portion of a mixed use residential project or a multi unit residential project. (Sound wall noise mitigation measures are not effective in reducing noise generated by aircraft flying overhead.)	Not applicable. The Project does not propose lodging of any kind.
N-5 All property owners within the Airport Influence Area who rent or lease their property for residential use shall include in their rental/lease agreement with the tenant, a statement advising that they (the tenants) are living within a high noise area and the exterior noise level is predicted to be greater than 65 dB CNEL in a manner that is consistent with current state law including AB2776 (2002).	Not applicable. The Project does not include a residential use.
N-6 Noise level compatibility standards for other types of land uses shall be applied in the same manner as the above residential noise level criteria. Table 4-1 presents acceptable noise levels for other land uses in the vicinity of the Airport.	Consistent. As shown on Table 4-1 of the CLUP, Industrial uses such as the proposed Project are considered "Generally Acceptable" in the 65-70 CNEL range.

Policy	Project Consistency with Policy
N-7 Single-event noise levels (SENL) from single aircraft overflights are also to be considered when evaluating the compatibility of highly noise-sensitive land uses such as schools, libraries, outdoor theaters, and mobile homes. Single-event noise levels are especially important in the areas regularly overflown by aircraft, but which may not produce significant CNEL contours, such as the down-wind segment of the traffic pattern, and airport entry and departure flight corridors.	Not applicable. The Project does not include highly noise-sensitive land uses such as schools, libraries, outdoor theaters, and mobile homes.
Height Compatibility	
H-1 Any structure or object that penetrates the Federal Aviation Regulations Part 77, Objects Affecting Navigable Airspace, (FAR Part 77) surfaces as illustrated in Figure 6, is presumed to be a hazard to air navigation and will be considered an incompatible land use, except in the following circumstance. If the structure or object is above the FAR Part 77 surface, the proponent may submit the project data to the FAA for evaluation and air navigation hazard determination, in which case the FAA's determination shall prevail.	Consistent. The Project was reviewed by the FAA and received a Determination of No Hazard.
H-2 Any project that may exceed a FAR Part 77 surface must notify the Federal Aviation Administration (FAA) as required by FAR Part 77, Subpart B on FAA Form 7460-1, Notice of Proposed Construction or Alteration. (Notification to the FAA under FAR Part 77, Subpart B, is required even for certain proposed construction that does not exceed the height limits allowed by Subpart C of the FARs).	Consistent. The Project was reviewed by the FAA and received a Determination of No Hazard.
Tall Structure Compatibility	
T-1 The applicant for any proposed project anywhere in the County for construction or alteration of a structure (including antennas) higher than 200 feet above ground level shall submit to the FAA a completed copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration. A copy of the submitted form shall be submitted to the Santa Clara County ALUC as well as a copy of the FAA's response to this form.	Not applicable. The Project does not include structures higher than 200 feet above ground level.

Policy	Project Consistency with Policy
T-2 Any proposed project anywhere in the County for construction or alteration of a structure (including antennas) higher than 200 feet above ground level shall comply with FAR 77.13(a)(1) and shall be determined inconsistent if deemed to be a hazard by the FAA or if the ALUC determines that the project has any impact on normal aircraft operations or would increase the risk to aircraft operations.	Not applicable. The Project does not include structures higher than 200 feet above ground level.
Safety Compatibility	
S-1 These policies and the Safety Zone Compatibility Policies presented in Table 4-2 shall be used to determine if a specific land use is consistent with the CLUP. Safety impacts shall be evaluated according to the Airport Safety Zones presented on Figure 7.	Consistent. Project consistency with the safety policies in the CLUP was determined using Policies S-1 through S-8 and Table 4-2 in the CLUP.
S-2 Schools, hospitals, nursing homes, and other uses in which the majority of occupants are children, elderly, and/or disabled shall be prohibited within the Runway Protection Zones (RPZs), Inner Safety Zones (ISZs), Turning Safety Zones (TSZs), Sideline Safety Zones (SSZs), and Outer Safety Zones (OSZs) presented in Table 3-2.	Not applicable. The Project Site is not located within a CLUP-defined safety zone.
S-3 Amphitheaters, sports stadiums and other very high concentrations of people shall be prohibited within the Runway Protection Zones (RPZs), Inner Safety Zones (ISZs), Turning Safety Zones (TSZs), Sideline Safety Zones (SSZs) and Outer Safety Zones (OSZs) presented in Figure 7.	Not applicable. The Project Site is not located within a CLUP-defined safety zone.
S-4 Storage of fuel or other hazardous materials shall be prohibited in the Runway Protection Zone. Above ground storage of fuel or other hazardous materials shall be prohibited in the Inner Safety Zone and Turning Safety Zone. In the Sideline Safety Zones and Outer Safety Zones, storage of fuel or other hazardous materials not associated with aircraft use should be discouraged.	Not applicable. The Project Site is not located within a CLUP-defined safety zone.
S-5 In addition to the requirements of Table 4-2, open space requirements, for sites which can accommodate an open space component, shall be established at the general plan level for each safety zone where feasible as determined by the local jurisdiction, as individual parcels may be too	Not applicable. The Project Site is not located within a CLUP-defined safety zone.

Policy	Project Consistency with Policy
small to accommodate the minimum-size open space requirement. To qualify as open space, an area must be free of buildings and have minimum dimensions of at least 75 feet wide by 300 feet long along the normal direction of flight. Streets and parks may function as such open spaces without limitations on vegetation or right of way improvements. The alignment of streets to runways, clustering of development and provision of contiguous landscaping and parking areas will be encouraged to increase the size of open space areas.	
S-6 The principal means of reducing risks to people on the ground is to restrict land uses so as to limit the number of people who might gather in areas most susceptible to aircraft accidents. A method for determining the concentration of people for various land uses is presented in Section 5.0, Implementation.	Not applicable. The Project Site is not located within a CLUP-defined safety zone.
S-7 The following uses shall be prohibited in all Airport Safety Zones: • Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator. • Any use that would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport. • Any use which would generate smoke or water vapor, or which would attract large concentrations of birds, or which may otherwise negatively affect safe air navigation within the area. • Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation, communication or navigation equipment.	Not applicable. The Project Site is not located within a CLUP-defined safety zone.

Policy	Project Consistency with Policy
S-8 In unique cases an exception can be granted, at the discretion of the ALUC, on the basis of mitigation measures proposed by the applicant which would result in the final project improving the overall safety in the safety zones in comparison to the situation existing prior to the project. An example of such a possible mitigation is the removal of existing incompatible structures in exchange for constructing less incompatible structures. The following conditions must be met for this variance to be granted: a. There must be a clear, demonstrable net improvement in safety. b. The mitigation must provide a permanent improvement in safety. For instance, in the example above, the removed structures could not be replaced by other structures at a later date.	Not applicable. The Project Site is not located within a CLUP-defined safety zone.
Overflight	
O-1 All new projects within the AIA that are subject to discretionary review and approval shall be required to dedicate in compliance with state law, an avigation easement to the City of San Jose. The avigation easement shall be similar to that shown as Exhibit 1 in Appendix A.	Consistent. The Project Site is already subject to an avigation easement, which was issued in 1977 for parcels of property that include the Project Site. The terms of the Avigation Easement provide that subsequent property owners are bound by the Avigation Easement as it “runs with the land”.
Reconstruction	
R-1 Reconstruction projects that are not subject to a previous avigation easement shall not be required to provide an avigation easement as a condition for approval.	Not applicable. The Project is not a reconstruction project.
R-2 Residential reconstruction projects must include noise insulation to assure interior noise levels of less than 45 dB CNEL.	Not applicable. The Project is not a residential reconstruction project.
R-3 An application for reconstruction increasing the structure’s internal square footage, footprint square footage, height, and/or intensity of use may be approved if the local agency determines that such increase will have no adverse impact beyond that which existed with the original structure. However, a project approved under this policy shall require the property owner to offer and the local agency shall accept an avigation easement	Not applicable. The Project is not a reconstruction project.

Policy	Project Consistency with Policy
to the jurisdiction operating the airport, similar to Exhibit 1 in the Appendix.	
Modification	
M-1 Modifications shall be transmitted to the ALUC staff for review and comment.	Consistent. To the extent it is applicable and required, future modifications to the Project (i.e., rezoning, permit amendments, revised architecture, etc.), if they occur, will be transmitted to the ALUC staff for review and comment.
Infill	
I-1 Infill projects must comply with paragraph 4.3.5 and table 4-2 of this CLUP with the exception of the land use density requirements.	Not applicable. The Project is not an “infill” project as defined in Section 4.3.9 of the CLUP (i.e., development of vacant or underutilized residential properties located in a safety zone, of less than 0.25 acres in size, in areas that are already substantially developed with uses not ordinarily permitted by the CLUP compatibility criteria).
I-2 Infill projects may be approved if all of the following conditions are met: a) The total contiguous undeveloped land area at this location is less than 0.25 acres in size. Note that this means the total contiguous undeveloped land area, not just the land area being proposed for development. Lots larger than 0.25 acres shall not be considered for infill. b) The site is already surrounded on three sides and a street, or two sides and two streets, by the same land use as that being proposed. c) The local agency determines that the project will create no adverse safety impacts beyond those that already exist due to the existing incompatible land uses. d) Where legally feasible the property owner shall offer and the local agency shall accept an avigation easement to the jurisdiction operating the airport, similar to Exhibit 1 in the Appendix.	Not applicable. The Project is not an “infill” project as defined in Section 4.3.9 of the CLUP.

ATTACHMENT LU DR-87

Avigation Easement

Title Insurance and Trust Co. 2826 38608788
APN 97-12-32
When Recorded Mail NOV 25 1977 2826
Hewlett-Packard Company
1501 Page Mill Road
Palo Alto, CA 94304
Mail Tax Statements
Same as Above

5852826

P.T. 22.00 \$22.00 Full Value
S.I.C.T.T. \$66.00

GRANT DEED

D 298 PAGE 630

CITY OF SAN JOSE, a municipal corporation of the State of California,
GRANTOR,

does hereby GRANT to,
COMPANY
HEWLETT-PACKARD, a corporation

GRANTEE,

All that certain real property situate in the County of Santa Clara,
State of California, described as follows:

97-12-32
BEGINNING at the most northerly corner of that certain 2.606 acre parcel of land described and designated Parcel No. 1 in the Lis Pendens dated March 31, 1959 and recorded in the Office of the County Recorder of said County of Santa Clara in Book 4370 of Official Records at Page 318, said most northerly corner being in the northwesterly boundary line of that certain 16.91 acre parcel of land described and designated Parcel Two in the Deed from Samuel A. Brandon and wife to Victor Rodrigues and wife, dated February 2, 1943 and recorded in the office of said County Recorder in Book 1130 of Official Records at Page 197, and running thence along the north-easterly boundary line of said 2.606 acre parcel of land the following two courses and distances, namely: southeasterly on a curve to the left, with a radius of 850.0 feet, through a central angle of 16° 46' 36", and tangent at the northwesterly terminus thereof to a line which has a bearing of south 40° 14' 24" east, an arc distance of 248.89 feet; and thence south 57° 01' east 131.33 feet to the most easterly corner of said 2.606 acre parcel of land, said most easterly corner being in the southeasterly boundary line of said 16.91 acre parcel of land; thence north 41° 51-1/2' east, along the last mentioned boundary line, 164.20 feet; thence north 46° 44' west 354.41 feet to a point in the northwesterly boundary line of said 16.91 acre parcel of land; thence south 48° 42-1/2' west, along the last mentioned boundary line, 196.63 feet, more or less, to the point of beginning, and being a portion of Rancho Rincon de Los Esteros (Alviso).

RESERVING AND ACCEPTING THEREFROM to the City of San Jose, its successors and assigns, a perpetual avigation easement in and over the real property hereinbefore described and a right of way for the free and unrestricted passage of aircraft of any and all kinds now or hereafter known, in, through, across and about the airspace above the surface of the hereinafter described plane above said real property (hereinafter "Airspace").

The hereinbefore mentioned plane is described as follows:

The imaginary plane above the hereinbefore described real property, as such plane is defined by Part 77 of the Federal Aviation Regulations, and consisting of a horizontal plane 150 feet above the San Jose Municipal Airport official datum of 56.00 feet above mean sea level (AMSL) as determined by the United States Geological Survey of 1969, the approximate dimensions of which said plane are described and shown on Exhibit A-1 attached hereto and incorporated herein by reference as though set forth at length.

Page 1 of 3

5852826
D. 298 PAGE 630
RECORDED AT THE REQUEST OF
Title Insurance and Trust Company
NOV 25 1977 8:00 AM
George A. Mann, Recorder
SANTA CLARA COUNTY, OFFICIAL RECORDS

Mail tax statement as above

NOV 25 1977

The aforesaid easement and right of way includes, but is not limited to:

(1) For the use and benefit of the public, the easement and continuing right to fly, or cause or permit the flight by any and all persons, of any aircraft, of any and all kinds now or hereafter known, in, through, across or about any portion of the Airspace hereinabove described; and

(2) The easement and right to cause or create, or permit or allow to be caused or created within all space above the existing surface of the hereinabove described real property and any and all airspace laterally adjacent to said real property, such noise, vibration, currents and other effects of air illumination and fuel consumption as may be inherent in, or may arise or occur from or during the operation of aircraft of any and all kinds, now or hereafter known or used, for navigation of or flight in air; and

(3) A continuing right to clear, and keep clear the Airspace of any portions of buildings, structures, or improvements of any kind, and of trees or other objects, including the right to remove or demolish those portions of such buildings, structures, improvements, trees or other things which extend into or above said Airspace, and the right to cut to the ground, level and remove any trees which extend into or above the Airspace.

(4) The right to mark and light, or cause or require to be marked or lighted, as obstructions to air navigation, any and all buildings, structures, or other improvements, and trees or other objects, which extend into or above the Airspace.

(5) The right of ingress to, passage within, and egress from the hereinabove described real property, for the purposes described in subparagraphs (3) and (4) above.

For and on behalf of itself, its successors and assigns, the Grantee, by its acceptance of this grant, hereby covenants with the City of San Jose for the direct benefit of the real property constituting the San Jose Municipal Airport hereinafter described, that neither the Grantee nor its successors in interest or assigns will construct, install, erect, place or grow, in or upon the hereinabove described real property, (nor will they permit or allow) any building, structure, improvement, tree or other object which extends into or above the Airspace, or which constitutes an obstruction to air navigation, or which obstructs or interferes with the use of the easement and rights of way herein reserved and excepted unto the Grantor.

The easements and rights of way herein granted shall be deemed both appurtenant to and for the direct benefit of that real property which constitutes the San Jose Municipal Airport, lying within the area bounded by the Guadalupe River, State Highway 17, Coleman Avenue, Brokaw Road, Martin Avenue, De La Cruz Boulevard and Bayshore Freeway, in the City of San Jose, County of Santa Clara, State of California; and shall further be deemed in gross, being reserved and excepted by and unto the Grantor for the benefit of the Grantor and any and all members of the general public who may use said easement or right of way, in landing at, taking off from or operating such aircraft in or about the said San Jose Municipal Airport, or in otherwise flying through said airspace.

The reservation and exception of said easement shall not operate to deprive the Grantee, its successors or assigns, of any rights which it may from time to time have against any air carrier or private operator for negligent or unlawful operation of aircraft.

These covenants and agreements run with the land and are binding upon the heirs, administrators, executors, successors and assigns of the Grantor, and, for the purpose of this instrument, the real property firstly hereinabove described is the servient tenement and said San Jose Municipal Airport is the dominant tenement.

DATED: June 6, 1977

CITY OF SAN JOSE, a municipal corporation of the State of California

FRANCIS L. GREINER
By Dannie Perkins Deputy

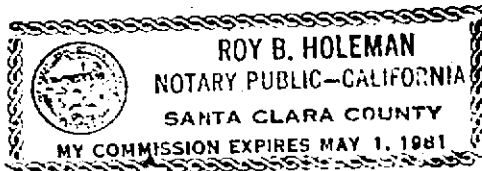
By J. Hayes Mayor

(Mayor's Acknowledgment)

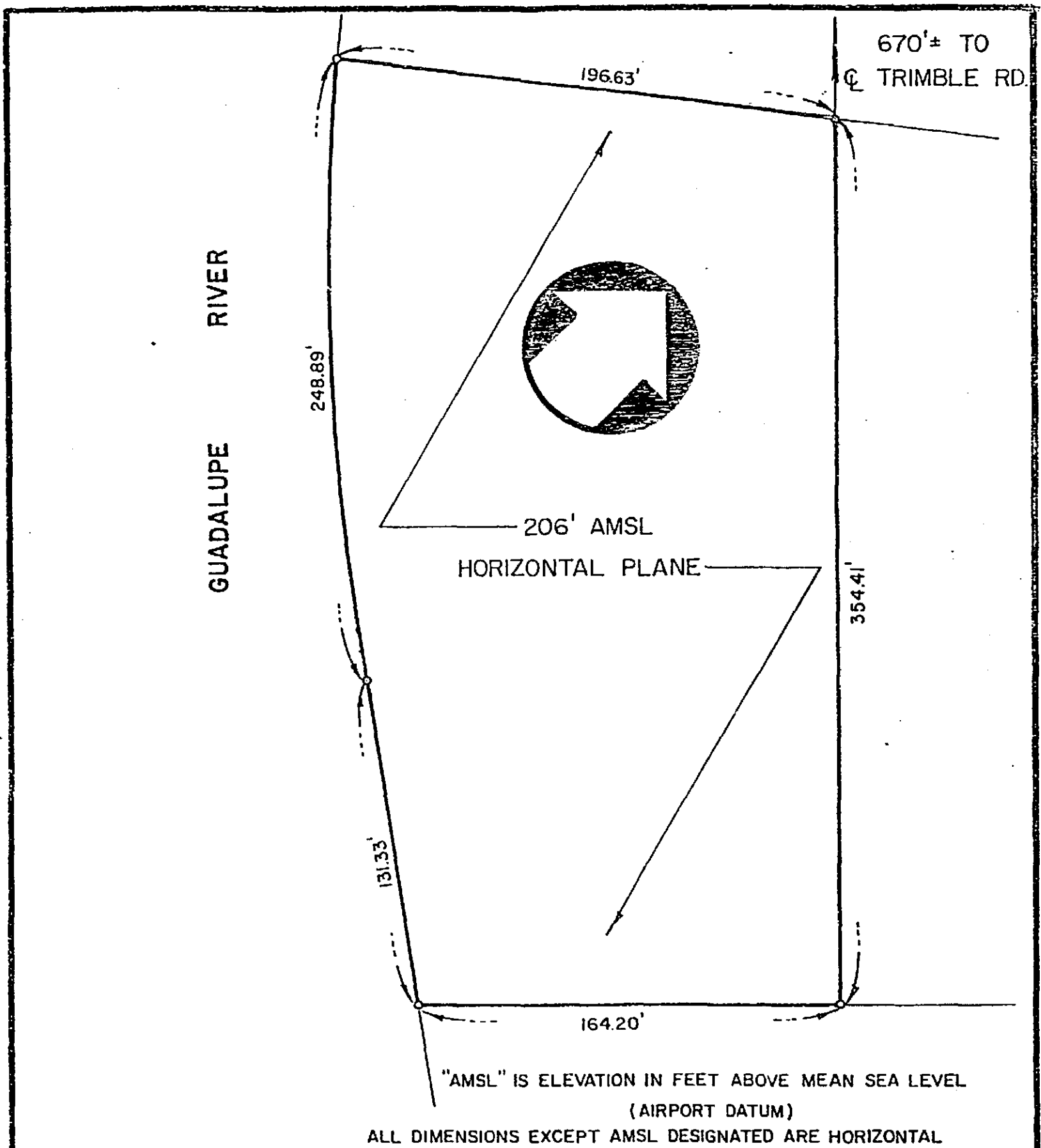
STATE OF CALIFORNIA)
COUNTY OF SANTA CLARA) ss.

On June 6, 1977, before me, the undersigned, a Notary Public in and for the above said County and State, personally appeared Janet Gray Hayes, known to me to be the Mayor of the municipal corporation described in and that executed the within instrument, and also known to me to be the person who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the same.

Witness my hand and official seal the day and year first hereinabove written.



R. B. Holeman
Notary Public in and for the County of Santa Clara, State of California



AVIGATION EASEMENT NO. 77-03
CITY OF SAN JOSE

EXHIBIT A-1

DRAWER A
DRWG. NO. 245

DWN. BY: GH PROJ. ENGR. *[Signature]*
AIRPORT PLAN'G. ENGR. *[Signature]*
DATE: January 17, 1977
SCALE: 1" = 50'

AIRPORT DEPARTMENT
SAN JOSE, CALIFORNIA

J.R. METTLER
DIRECTOR OF AVIATION

[Signature]

NOV 25 1977