DOCKETED

Docket Number:	21-SPPE-02
Project Title:	STACK Backup Generating Facility
TN #:	240911-1
Document Title:	STACK Backup Generating Facility Application for SPPE Appendices A and B
Description:	N/A
Filer:	Scott Galati
Organization:	DayZenLLC
Submitter Role:	Applicant Representative
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Appendix AQ-1

Engine Emissions Data

Table AQ1-1 Emissions Estimates for Emergency Standby Generators

Engine Mfg:	**CAT**	# of Units:	36	Max # of Engines Tested per Day:	8	# Redundant Engines:	6		
Model #:	**3516E**			*(engines are not tested concurrently)*		Emer Ops Engines:	30		
Fuel:	ULSD								
Fuel S, %wt:	0.0015								
Fuel wt, lb/gal:	7.05								
Btu/gal:	139000								
Lbs S/1000 gal:	0.10575								
Lbs SO2/1000 gal:	0.2115	equals	0.0050	g/bhp-hr	(use 0.005 g/bhp-hr as default SO2 factor for all loads)				
EPA Tier:	2								
Control System:	Miratech Catalyst + DPF to Meet T4								
Turbocharged:	Yes				Stack Exit Area (sq.ft) =	2.181662			
Aftercooled:	Yes								

Engine Data

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	Stk Temp, Kelvins	Stk Vel, m/s
4023	3000	100	1800	208.2	TBD	20	902	28.94	22806	174.2250	0.5080	756.48	53.1038

METRIC UNITs (Stk Diam, m; Stk Temp, Kelvins; Stk Vel, m/s)

Emissions Factor Scenarios (all values in g/bhp-hr)

Scenarios	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.015	0.015	163.052
Maint/Readiness Testing, 50 hrs/yr, EFs, 100% Load	1.53	2.6	0.14	0.005	0.015	0.015	
0.25 hr Uncontrolled, Tier 2 Stds Efs, 100% Load, w/DPF	4.6						
0.75 hr Controlled, T4 Efs, 100% Load, w/DPF	0.5						

Controlled Emissions Factor Scenarios (all values in g/bhp-hr)

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.500	2.6	0.14	0.005	0.015	0.015	163.052
Maint/Readiness Testing, 50 hrs/yr, EFs, 100% Load	1.53	2.6	0.14	0.005	0.015	0.015	163.052

Scenario 1: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load**

Redundant engines do NOT operate during emergency operations.

Max Hourly Runtime: 1
Max Daily Runtime: 24
Max Annual Runtime: 100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.435	23.060	1.242	0.044	0.133	0.133	na
lbs/day	106.431	553.441	29.801	1.064	3.193	3.193	na
TPY	0.222	1.153	0.062	0.002	0.007	0.007	235.9

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	133.04	691.80	37.25	1.33	3.99	3.99	na
lbs/day	3192.93	16603.22	894.02	31.93	95.79	95.79	na
TPY	6.65	34.59	1.86	0.07	0.20	0.20	7078.04

Scenario 2: **Maint/Readiness Testing, 50 hrs/yr, EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 1
Max Annual Runtime: 50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	13.526	23.060	1.242	0.044	0.133	0.133	na
lbs/day	13.526	23.060	1.242	0.044	0.133	0.133	na
TPY	0.338	0.577	0.031	0.001	0.003	0.003	118.0

8 Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	13.526	23.060	1.242	0.044	0.133	0.133	na
lbs/day	108.205	184.480	9.934	0.355	1.064	1.064	na

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
TPY	12.17	20.75	1.12	0.04	0.12	0.12	4246.82

BAAQMD 150 Hrs/Yr Emissions Totals, TPY:

NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
18.825	55.344	2.980	0.106	0.319	0.319	11324.9

Table AQ1-2 Emissions Estimates for Emergency Standby Generators

Engine Mfg:	**CAT**	# of Units:	2	Max # of Engines Tested per Day:	1
Model #:	**C32**			*(engines are not tested concurrently)*	
Fuel:	ULSD				

# Redundant Engines:	0
Emer Ops Engines:	2

Engine Data / ***METRIC UNITs***

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	Stk Temp, Kelvins	Stk Vel, m/s
1474	1000	100	1800	71.5	TBD	8	892.5	9.94	8115.3	387.4769	0.2032	751.21	118.1029

Fuel S, %wt:	0.0015				
Fuel wt, lb/gal:	7.05				
Btu/gal:	139000				
Lbs S/1000 gal:	0.10575				
Lbs SO2/1000 gal:	0.2115	equals	0.0047	g/bhp-hr	(use 0.005 g/bhp-hr as default SO2 factor for all loads)
EPA Tier:	2				
Control System:	Miratech Catalyst + DPF to Meet T4				
Turbocharged:	Yes				
Aftercooled:	Yes				

Stack Exit Area (sq.ft) = 0.349066

Emissions Factor Scenarios (all values in g/bhp-hr)

Scenarios	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.015	0.015	163.052
Maint/Readiness Testing, 50 hrs/yr, EFs, 100% Load	1.53	2.6	0.14	0.005	0.015	0.015	163.052
0.25 hr Uncontrolled, Tier 2 Stds Efs, 100% Load, w/DPF	4.6						163.052
0.75 hr Controlled, T4 Efs, 100% Load, w/DPF	0.5						163.052

Controlled Emissions Factor Scenarios (all values in g/bhp-hr)

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.500	2.600	0.140	0.005	0.015	0.015	163.052
Maint/Readiness Testing, 50 hrs/yr, EFs, 100% Load	1.53	2.600	0.140	0.005	0.015	0.015	163.052

Scenario 3: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load**

Max Hourly Runtime:	1
Max Daily Runtime:	24
Max Annual Runtime:	100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	1.625	8.449	0.455	0.016	0.049	0.049	na
lbs/day	38.996	202.777	10.919	0.390	1.170	1.170	na
TPY	0.081	0.422	0.023	0.001	0.002	0.002	81.0

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	3.25	16.90	0.91	0.03	0.10	0.10	na
lbs/day	77.99	405.55	21.84	0.78	2.34	2.34	na
TPY	0.16	0.84	0.05	0.002	0.005	0.005	162.05

Scenario 4: **Maint/Readiness Testing, 50 hrs/yr, EFs, 100% Load**

Max Hourly Runtime:	1
Max Daily Runtime:	1
Max Annual Runtime:	50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.956	8.449	0.455	0.016	0.049	0.049	na
lbs/day	4.956	8.449	0.455	0.016	0.049	0.049	na
TPY	0.124	0.211	0.011	0.0004	0.001	0.001	40.5

1 Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.956	8.449	0.455	0.016	0.049	0.049	na
lbs/day	4.956	8.449	0.455	0.016	0.049	0.049	na

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
TPY	0.25	0.42	0.02	0.001	0.002	0.002	81.02

BAAQMD 150 Hrs/Yr Emissions Totals, TPY:	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
	0.410	1.267	0.068	0.002	0.007	0.007	243.1

Table AQ1-3 CEC 3 Hour Emergency Run Block Emissions Estimates

CAT 3516E	Nox	CO	VOC	SO2	PM10/2.5	**C32**	Nox	CO	VOC	SO2	PM10/2.5
Hour 1 - Start Up, lbs/hr	13.53	23.06	1.24	0.044	0.133		4.96	8.45	0.455	0.016	0.049
Hour 2 - Steady State, lbs/hr	4.44	23.06	1.24	0.044	0.133		1.63	8.45	0.455	0.016	0.049
Hour 3 - Steady State, lbs/hr	4.44	23.06	1.24	0.044	0.133		1.63	8.45	0.455	0.016	0.049
Hour 100 - Steady State, lbs/hr	4.44	23.06	1.24	0.044	0.133		1.63	8.45	0.455	0.016	0.049
3 Hr Run Block, lbs/3 hrs	22.41	69.18	3.72	0.132	0.399		8.22	25.35	1.365	0.048	0.147
33 Run Blocks, lbs/yr	739.53	2282.94	122.76	4.356	13.167		271.26	836.55	45.045	1.584	4.851
Single Engine, lbs/yr	743.97	2306	124	4.4	13.3		272.89	845	45.5	1.6	4.9
# CAT 3516E Units Operated	30										
# CAT C32 Units Operated	2										
Total Annual Emissions, lbs	22319.1	69180	3720	132	399		545.78	1690	91	3.2	9.8
Total Annual Emissions, TPY	**11.16**	**34.59**	**1.86**	**0.066**	**0.200**		**0.27**	**0.85**	**0.05**	**0.002**	**0.005**

Notes:
3 Hr run blocks results in 33 run periods per year plus 1 extra hour

Appendix AQ-2
Engine Specifications and Brochures

PERFORMANCE DATA[DM9933]

September 13, 2021

Performance Number: DM9933 **Change Level: 04**

SALES MODEL:	C32	**COMBUSTION:**	DIRECT INJECTION
BRAND:	CAT	**ENGINE SPEED (RPM):**	1,800
ENGINE POWER (BHP):	1,474	**HERTZ:**	60
GEN POWER WITH FAN (EKW):	1,000.0	**FAN POWER (HP):**	56.3
COMPRESSION RATIO:	15.0	**ASPIRATION:**	TA
RATING LEVEL:	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
GOVERNOR TYPE:	ADEM4	**TURBO CONFIGURATION:**	PARALLEL
ELECTRONICS TYPE:	ADEM4	**TURBO QUANTITY:**	2
IGNITION TYPE:	CI	**TURBOCHARGER MODEL:**	GTB45518BS-52T-1.37
INJECTOR TYPE:	EUI	**CERTIFICATION YEAR:**	2007
REF EXH STACK DIAMETER (IN):	8	**PISTON SPD @ RATED ENG SPD (FT/MIN):**	1,913.4
MAX OPERATING ALTITUDE (FT):	997		

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)	VOL FUEL CONSUMPTN (VFC)
EKW	%	BHP	PSI	LB/BHP-HR	GAL/HR
1,000.0	100	1,483	333	0.342	71.5
900.0	90	1,338	301	0.341	64.2
800.0	80	1,195	268	0.348	58.7
750.0	75	1,124	252	0.353	56.0
700.0	70	1,053	237	0.354	52.6
600.0	60	912	205	0.353	45.4
500.0	50	772	173	0.350	38.1
400.0	40	635	143	0.351	31.4
300.0	30	496	111	0.357	25.0
250.0	25	426	96	0.363	21.8
200.0	20	355	80	0.373	18.7
100.0	10	209	47	0.424	12.5

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
1,000.0	100	1,483	70.8	118.8	1,214.1	58.6	892.5	76	424.5
900.0	90	1,338	64.3	111.4	1,153.5	52.2	856.8	70	392.7
800.0	80	1,195	60.6	106.7	1,117.9	48.8	833.4	66	375.9
750.0	75	1,124	58.4	104.2	1,102.3	47.0	822.2	63	366.1
700.0	70	1,053	54.2	100.0	1,080.1	43.6	811.1	59	345.5
600.0	60	912	44.3	90.6	1,028.7	35.7	789.8	49	304.7
500.0	50	772	33.5	81.3	968.0	27.4	769.5	37	264.3
400.0	40	635	24.3	74.9	899.7	20.8	733.5	27	224.9
300.0	30	496	16.1	70.5	816.3	15.3	679.6	19	185.5
250.0	25	426	12.3	69.0	768.2	12.9	646.0	15	165.6
200.0	20	355	8.9	67.9	713.3	10.7	605.3	11	147.2
100.0	10	209	4.5	67.5	572.6	7.8	491.3	6	123.0

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
1,000.0	100	1,483	3,105.2	8,115.3	13,517.7	14,024.8	2,950.9	2,698.6
900.0	90	1,338	2,944.7	7,443.4	12,775.8	13,231.6	2,780.0	2,550.6
800.0	80	1,195	2,860.8	7,069.3	12,380.1	12,796.7	2,687.9	2,475.7

750.0	75	1,124	2,799.4	6,858.4	12,094.1	12,491.0	2,630.6	2,427.3
700.0	70	1,053	2,654.6	6,439.5	11,425.3	11,795.7	2,491.4	2,301.6
600.0	60	912	2,369.9	5,618.4	10,126.3	10,445.3	2,210.8	2,046.3
500.0	50	772	2,090.3	4,815.2	8,871.8	9,141.4	1,926.2	1,786.0
400.0	40	635	1,819.3	4,039.9	7,654.2	7,876.2	1,664.7	1,547.4
300.0	30	496	1,549.9	3,272.7	6,487.7	6,664.2	1,412.4	1,317.4
250.0	25	426	1,414.6	2,888.8	5,920.9	6,075.3	1,284.6	1,200.7
200.0	20	355	1,292.4	2,528.2	5,413.4	5,545.9	1,167.2	1,094.3
100.0	10	209	1,149.4	1,989.9	4,805.1	4,893.7	1,028.8	975.8

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
1,000.0	100	1,483	20,153	7,292	58,664	32,275	8,277	16,551	62,887	155,406	165,547
900.0	90	1,338	18,470	6,522	52,678	28,324	7,440	14,394	56,743	139,692	148,807
800.0	80	1,195	16,970	5,949	49,043	26,036	6,799	13,345	50,677	127,654	135,984
750.0	75	1,124	16,223	6,124	47,027	24,781	6,486	12,683	47,666	121,777	129,723
700.0	70	1,053	15,326	6,876	43,772	22,824	6,093	11,231	44,653	114,394	121,858
600.0	60	912	13,529	6,786	37,588	19,231	5,263	8,681	38,675	98,811	105,259
500.0	50	772	11,822	5,357	31,812	16,013	4,411	6,504	32,735	82,825	88,230
400.0	40	635	10,869	4,421	25,935	12,562	3,637	4,598	26,908	68,277	72,732
300.0	30	496	9,934	3,738	20,129	9,084	2,892	2,986	21,049	54,294	57,837
250.0	25	426	9,352	3,463	17,322	7,412	2,525	2,290	18,081	47,414	50,508
200.0	20	355	8,620	3,178	14,651	5,809	2,162	1,718	15,065	40,584	43,232
100.0	10	209	6,683	2,334	9,950	2,795	1,444	1,067	8,853	27,118	28,888

Emissions Data

DIESEL

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN		EKW	1,000.0	750.0	500.0	250.0	100.0
PERCENT LOAD		**%**	**100**	**75**	**50**	**25**	**10**
ENGINE POWER		**BHP**	**1,483**	**1,124**	**772**	**426**	**209**
TOTAL NOX (AS NO2)		G/HR	7,256	4,250	2,777	1,877	1,108
TOTAL CO		G/HR	192	123	265	435	672
TOTAL HC		G/HR	19	55	53	40	80
TOTAL CO2		KG/HR	726	568	384	219	125
PART MATTER		G/HR	26.9	19.9	34.3	53.7	43.0
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,346.5	1,746.8	1,683.5	2,004.0	1,999.0
TOTAL CO	(CORR 5% O2)	MG/NM3	62.1	49.6	159.5	470.0	1,358.8
TOTAL HC	(CORR 5% O2)	MG/NM3	5.4	19.7	27.7	36.7	147.6
PART MATTER	(CORR 5% O2)	MG/NM3	7.3	6.9	17.8	53.8	69.4
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,143	851	820	976	974
TOTAL CO	(CORR 5% O2)	PPM	50	40	128	376	1,087
TOTAL HC	(CORR 5% O2)	PPM	10	37	52	68	275
TOTAL NOX (AS NO2)		G/HP-HR	4.93	3.81	3.61	4.41	5.32
TOTAL CO		G/HP-HR	0.13	0.11	0.34	1.02	3.22
TOTAL HC		G/HP-HR	0.01	0.05	0.07	0.09	0.38
PART MATTER		G/HP-HR	0.02	0.02	0.04	0.13	0.21
TOTAL NOX (AS NO2)		LB/HR	16.00	9.37	6.12	4.14	2.44
TOTAL CO		LB/HR	0.42	0.27	0.58	0.96	1.48
TOTAL HC		LB/HR	0.04	0.12	0.12	0.09	0.18
TOTAL CO2		LB/HR	1,600	1,252	847	484	275
PART MATTER		LB/HR	0.06	0.04	0.08	0.12	0.09
OXYGEN IN EXH		%	10.0	11.4	12.2	13.4	15.7
DRY SMOKE OPACITY		%	0.7	0.7	1.3	3.0	2.2
BOSCH SMOKE NUMBER			0.18	0.16	0.57	1.30	1.00

PERFORMANCE DATA[DM9933]

September 13, 2021

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITH FAN		EKW	1,000.0	750.0	500.0	250.0	100.0
PERCENT LOAD		%	100	75	50	25	10
ENGINE POWER		BHP	1,483	1,124	772	426	209
TOTAL NOX (AS NO2)		G/HR	8,780	5,143	3,360	2,272	1,341
TOTAL CO		G/HR	359	231	495	813	1,256
TOTAL HC		G/HR	36	104	100	76	151
PART MATTER		G/HR	52.5	38.7	66.9	104.7	83.8
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,839.3	2,113.6	2,037.0	2,424.8	2,418.8
TOTAL CO	(CORR 5% O2)	MG/NM3	116.2	92.7	298.2	879.0	2,541.0
TOTAL HC	(CORR 5% O2)	MG/NM3	10.2	37.3	52.3	69.3	278.9
PART MATTER	(CORR 5% O2)	MG/NM3	14.2	13.4	34.8	104.9	135.3
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,383	1,030	992	1,181	1,178
TOTAL CO	(CORR 5% O2)	PPM	93	74	239	703	2,033
TOTAL HC	(CORR 5% O2)	PPM	19	70	98	129	521
TOTAL NOX (AS NO2)		G/HP-HR	5.97	4.60	4.37	5.34	6.43
TOTAL CO		G/HP-HR	0.24	0.21	0.64	1.91	6.03
TOTAL HC		G/HP-HR	0.02	0.09	0.13	0.18	0.73
PART MATTER		G/HP-HR	0.04	0.03	0.09	0.25	0.40
TOTAL NOX (AS NO2)		LB/HR	19.36	11.34	7.41	5.01	2.96
TOTAL CO		LB/HR	0.79	0.51	1.09	1.79	2.77
TOTAL HC		LB/HR	0.08	0.23	0.22	0.17	0.33
PART MATTER		LB/HR	0.12	0.09	0.15	0.23	0.18

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)	50	60	70	80	90	100	110	120	130	NORMAL
ALTITUDE (FT)										
0	1,474	1,474	1,474	1,474	1,474	1,468	1,442	1,417	1,393	1,474
1,000	1,474	1,474	1,474	1,466	1,439	1,413	1,388	1,364	1,341	1,474
2,000	1,474	1,465	1,438	1,411	1,385	1,360	1,336	1,314	1,291	1,434
3,000	1,438	1,410	1,383	1,358	1,333	1,309	1,286	1,264	1,242	1,389
4,000	1,383	1,356	1,331	1,306	1,282	1,259	1,237	1,216	1,195	1,345
5,000	1,330	1,304	1,280	1,256	1,233	1,211	1,190	1,169	1,149	1,302
6,000	1,278	1,254	1,230	1,207	1,185	1,164	1,144	1,124	1,105	1,260
7,000	1,228	1,205	1,182	1,160	1,139	1,119	1,099	1,080	1,062	1,220
8,000	1,180	1,157	1,135	1,114	1,094	1,074	1,056	1,037	1,020	1,180
9,000	1,133	1,111	1,090	1,070	1,050	1,032	1,014	996	979	1,141
10,000	1,087	1,066	1,046	1,027	1,008	990	973	956	940	1,103
11,000	1,043	1,023	1,004	985	967	950	933	917	902	1,066

12,000	1,001	981	963	945	928	911	895	880	865	1,029
13,000	959	941	923	906	889	874	858	843	829	994
14,000	919	901	884	868	852	837	822	808	794	959
15,000	880	863	847	831	816	802	788	774	761	926

Cross Reference

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
0K8987	PP6050	2537557	GS277	-	SYC00001	
0K7838	GG0346	3208618	GS490	-	JDB00001	
0K8987	PP6050	3249750	GS277	-	SYC00001	
0K8987	PP6050	3367659	GS471	-	PRH00001	
0K8987	PP6050	3801431	GS471	-	PRH00001	
0K8987	PP6050	4391323	GS471	-	PRH03719	
0K8987	PP6050	4447558	GS471	-	PRH00001	
0K8987	PP6050	4447562	GS471	-	PRH00001	
0K8987	PP6050	5233431	GS471	-	PRH00001	
0K8987	PP6050	5612763	GS471	DK	PRH00001	
0K8987	PP6050	6034725	PG457	-	PRH00001	

Performance Parameter Reference

Parameters Reference:DM9600-12

PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600
APPLICATION:
Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.
PERFORMANCE PARAMETER TOLERANCE FACTORS:
Power +/- 3%
Torque +/- 3%
Exhaust stack temperature +/- 8%
Inlet airflow +/- 5%
Intake manifold pressure-gage +/- 10%
Exhaust flow +/- 6%
Specific fuel consumption +/- 3%
Fuel rate +/- 5%
Specific DEF consumption +/- 3%
DEF rate +/- 5%
Heat rejection +/- 5%
Heat rejection exhaust only +/- 10%
Heat rejection CEM only +/- 10%
Heat Rejection values based on using treated water.
Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.
On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.
These values do not apply to C280/3600. For these models, see the tolerances listed below.
C280/3600 HEAT REJECTION TOLERANCE FACTORS:
Heat rejection +/- 10%
Heat rejection to Atmosphere +/- 50%
Heat rejection to Lube Oil +/- 20%
Heat rejection to Aftercooler +/- 5%
TEST CELL TRANSDUCER TOLERANCE FACTORS:
Torque +/- 0.5%
Speed +/- 0.2%
Fuel flow +/- 1.0%
Temperature +/- 2.0 C degrees
Intake manifold pressure +/- 0.1 kPa
OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.
REFERENCE ATMOSPHERIC INLET AIR
FOR 3500 ENGINES AND SMALLER
SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other

engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard 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 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.

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:

PERFORMANCE DATA[DM9933]

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 : 07/10/19

Appendix AQ-3
Air Quality Impact Modeling
Support Data

Figure AQ3-1
Building Inputs for BPIP-PRIME

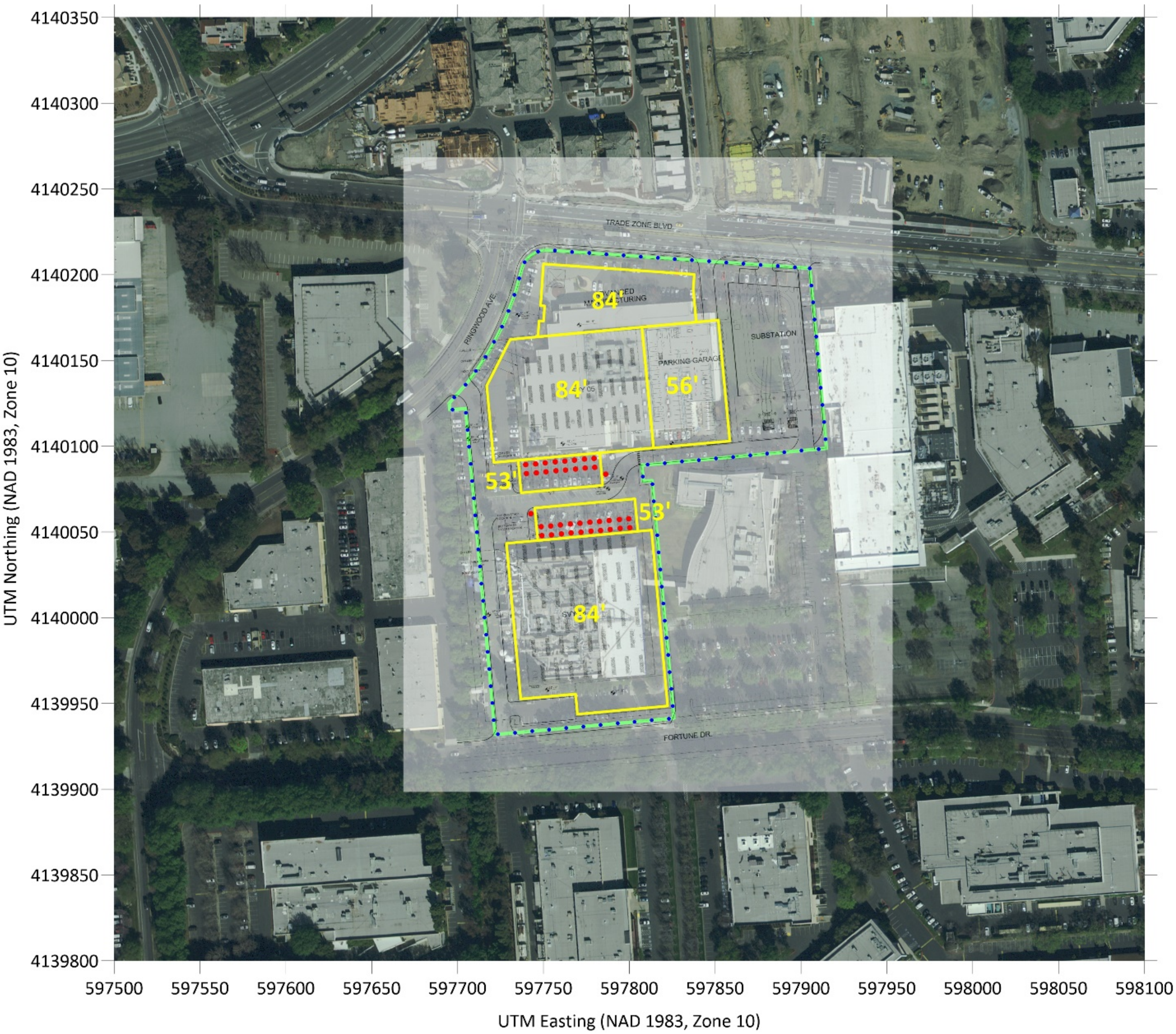


Figure AQ3-2
Receptor Grids

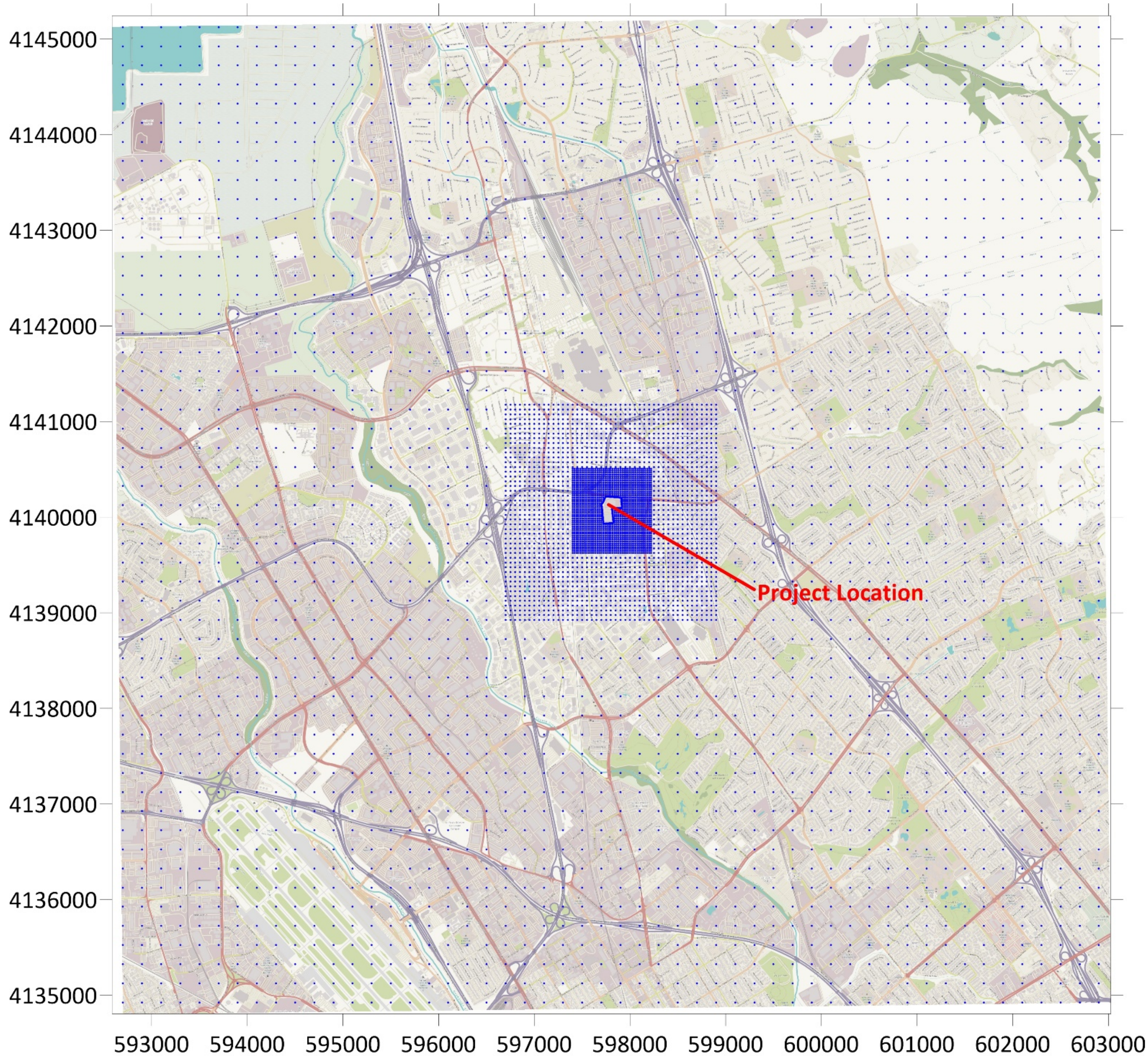


Figure AQ3-3
Maximum Impact Locations

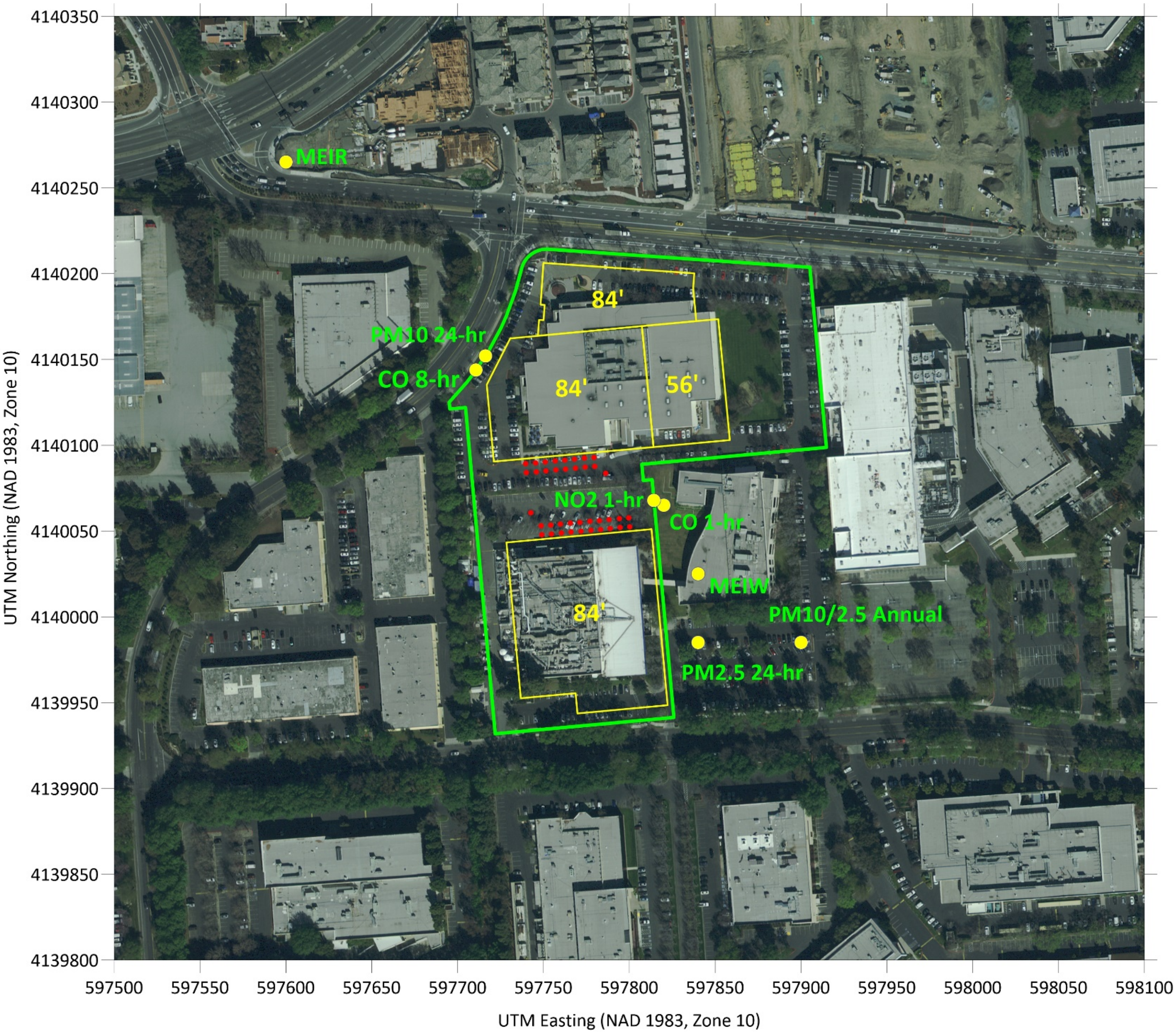
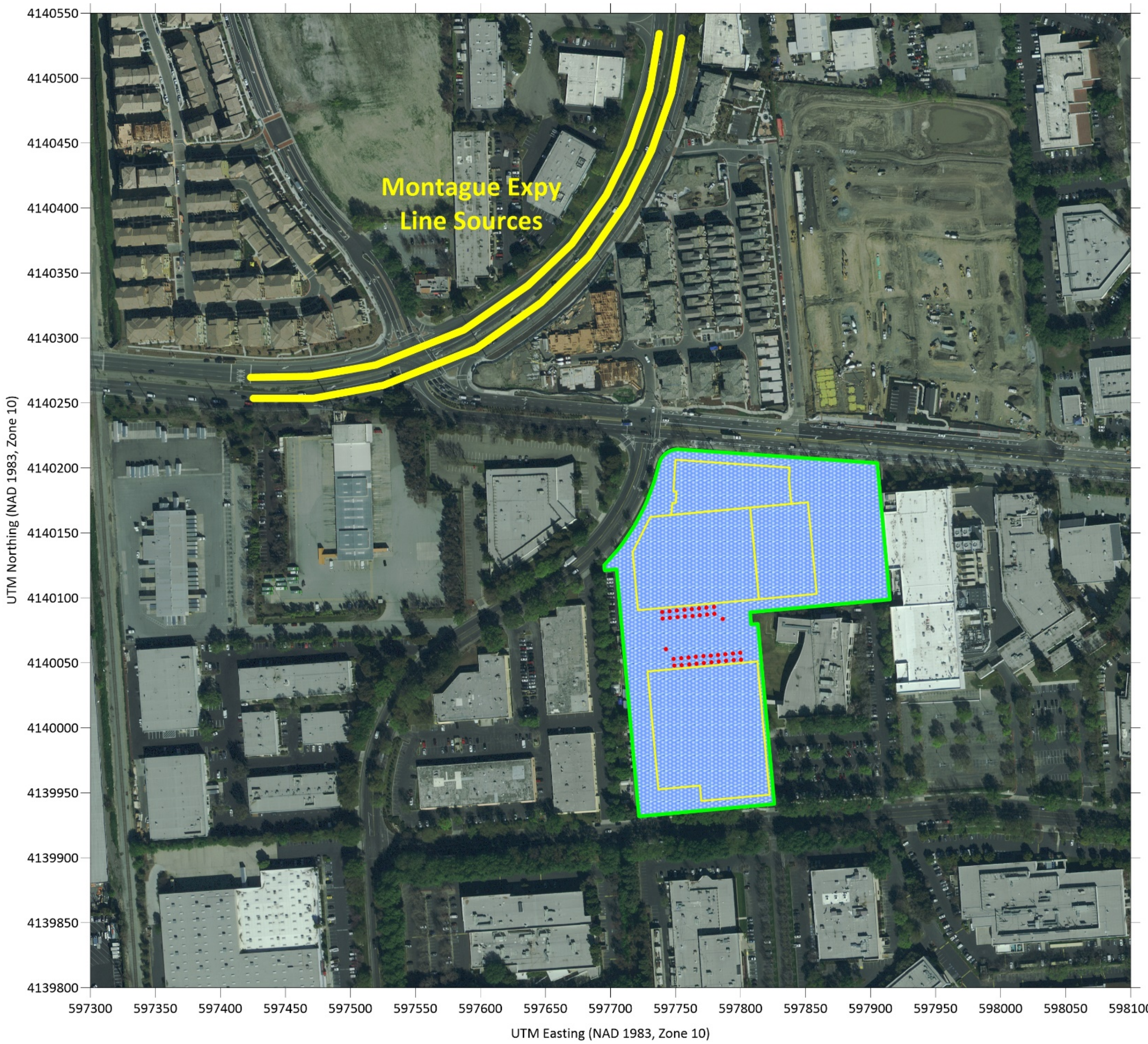


Figure AQ3-4
Roadway Segments Used in the Modeling Analysyes



Appendix AQ-4

Constructions Emissions

CalEEMod

Table AQ4-1A

Exist Fortune

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	55.00	1000sqft	3.68	55,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 58

Climate Zone 4 **Operational Year** 2021

Utility Company Silicon Valley Power

CO2 Intensity (lb/MWhr) 307.98 **CH4 Intensity (lb/MWhr)** 0.033 **N2O Intensity (lb/MWhr)** 0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Existing facility operations emissions only, no construction.

Land Use - Bldg is 55000 sq.ft., parcel is 3.68 acres.

Construction Phase - No construction.

Off-road Equipment - No construction.

On-road Fugitive Dust - No construction.

Vehicle Trips - Defaults used.

Fleet Mix - Defaults used.

Road Dust - No unpaved road travel in the facility urban area.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	10/19/2021	9/21/2020

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

tblConstructionPhase	PhaseStartDate	9/22/2021	9/22/2020
tblLandUse	LotAcreage	1.26	3.68
tblOffRoadEquipment	HorsePower	81.00	0.00
tblOffRoadEquipment	LoadFactor	0.73	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOnRoadDust	HaulingPercentPave	100.00	0.00
tblOnRoadDust	VendorPercentPave	100.00	0.00
tblOnRoadDust	WorkerPercentPave	100.00	0.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Maximum	**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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**

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

		Highest		

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Area	0.2435	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.0500e-003
Energy	7.7600e-003	0.0706	0.0593	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003						139.9379
Mobile	0.1245	0.1704	1.2642	2.6000e-003		2.5300e-003	0.2667		2.3700e-003	0.0729						243.8052
Waste						0.0000	0.0000		0.0000	0.0000						34.2979
Water						0.0000	0.0000		0.0000	0.0000						26.9894
Total	**0.3758**	**0.2410**	**1.3240**	**3.0200e-003**		**7.8900e-003**	**0.2721**		**7.7300e-003**	**0.0783**						**445.0314**

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	0.2435	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.0500e-003
Energy	7.7600e-003	0.0706	0.0593	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003						139.9379
Mobile	0.1245	0.1704	1.2642	2.6000e-003		2.5300e-003	0.2667		2.3700e-003	0.0729						243.8052
Waste						0.0000	0.0000		0.0000	0.0000						34.2979
Water						0.0000	0.0000		0.0000	0.0000						26.9894
Total	**0.3758**	**0.2410**	**1.3240**	**3.0200e-003**		**7.8900e-003**	**0.2721**		**7.7300e-003**	**0.0783**						**445.0314**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/22/2020	9/21/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

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)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	0	0.00

<u>Trips and VMT</u>

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

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction Off-Site

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

3.2 Demolition - 2020

Mitigated Construction Off-Site

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

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	0.1245	0.1704	1.2642	2.6000e-003		2.5300e-003	0.2667		2.3700e-003	0.0729						243.8052
Unmitigated	0.1245	0.1704	1.2642	2.6000e-003		2.5300e-003	0.2667		2.3700e-003	0.0729						243.8052

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	216.15	353.10	279.95	714,780	714,780
Total	216.15	353.10	279.95	714,780	714,780

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
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.567742	0.054883	0.190502	0.116880	0.020652	0.004894	0.008289	0.006425	0.000966	0.000407	0.024432	0.000950	0.002978

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						62.6428
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						62.6428
NaturalGas Mitigated	7.7600e-003	0.0706	0.0593	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003						77.2952
NaturalGas Unmitigated	7.7600e-003	0.0706	0.0593	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003						77.2952

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Manufacturing	1.4399e+006	7.7600e-003	0.0706	0.0593	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003						77.2952
Total		**7.7600e-003**	**0.0706**	**0.0593**	**4.2000e-004**		**5.3600e-003**	**5.3600e-003**		**5.3600e-003**	**5.3600e-003**						**77.2952**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Manufacturing	1.4399e+006	7.7600e-003	0.0706	0.0593	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003						77.2952
Total		**7.7600e-003**	**0.0706**	**0.0593**	**4.2000e-004**		**5.3600e-003**	**5.3600e-003**		**5.3600e-003**	**5.3600e-003**						**77.2952**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	445500				62.6428
Total					**62.6428**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	445500				62.6428
Total					**62.6428**

6.0 Area Detail

6.1 Mitigation Measures Area

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	0.2435	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.0500e-003
Unmitigated	0.2435	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.0500e-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	0.0287					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.2148					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.0500e-003
Total	**0.2435**	**0.0000**	**5.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**1.0500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0287					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.2148					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.0500e-003
Total	**0.2435**	**0.0000**	**5.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**1.0500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				26.9894
Unmitigated				26.9894

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	12.7188 / 0				26.9894
Total					**26.9894**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	12.7188 / 0				26.9894
Total					**26.9894**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				34.2979
Unmitigated				34.2979

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	68.2				34.2979
Total					**34.2979**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	68.2				34.2979
Total					**34.2979**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Table AQ4-1B

Exist Ringwood

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	80.00	1000sqft	6.10	80,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Silicon Valley Power				
CO2 Intensity (lb/MWhr)	307.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Existing facility operations emissions only, no construction.

Land Use - Known site data from Applicant.

Construction Phase - No construction.

Off-road Equipment - No construction.

On-road Fugitive Dust - No construction.

Vehicle Trips - Defaults

Fleet Mix - Defaults

Road Dust - No travel on unpaved roads in the facility urban area.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	2.00
tblConstructionPhase	PhaseEndDate	9/28/2020	8/31/2020

tblLandUse	LotAcreage	1.84	6.10
tblOffRoadEquipment	HorsePower	81.00	0.00
tblOffRoadEquipment	LoadFactor	0.73	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOnRoadDust	HaulingPercentPave	100.00	0.00
tblOnRoadDust	VendorPercentPave	100.00	0.00
tblOnRoadDust	WorkerPercentPave	100.00	0.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Maximum	**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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**

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

		Highest		

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	0.3542	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.5200e-003
Energy	0.0113	0.1027	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003						203.5461
Mobile	0.3220	0.4175	3.1094	6.2100e-003		6.0900e-003	0.6340		5.7100e-003	0.1734						582.2234
Waste						0.0000	0.0000		0.0000	0.0000						3.0576
Water						0.0000	0.0000		0.0000	0.0000						83.4705
Total	**0.6875**	**0.5202**	**3.1963**	**6.8300e-003**		**0.0139**	**0.6418**		**0.0135**	**0.1812**						**872.2992**

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	0.3542	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.5200e-003
Energy	0.0113	0.1027	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003						203.5461
Mobile	0.3220	0.4175	3.1094	6.2100e-003		6.0900e-003	0.6340		5.7100e-003	0.1734						582.2234
Waste						0.0000	0.0000		0.0000	0.0000						3.0576
Water						0.0000	0.0000		0.0000	0.0000						83.4705
Total	**0.6875**	**0.5202**	**3.1963**	**6.8300e-003**		**0.0139**	**0.6418**		**0.0135**	**0.1812**						**872.2992**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2020	8/31/2020	5	2	

Acres of Grading (Site Preparation Phase): 0

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
Demolition	Concrete/Industrial Saws	0	0.00	0	0.00

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

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction Off-Site

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

3.2 Demolition - 2020

Mitigated Construction Off-Site

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

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	0.3220	0.4175	3.1094	6.2100e-003		6.0900e-003	0.6340		5.7100e-003	0.1734						582.2234
Unmitigated	0.3220	0.4175	3.1094	6.2100e-003		6.0900e-003	0.6340		5.7100e-003	0.1734						582.2234

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Research & Development	900.80	152.00	88.80	1,698,806	1,698,806
Total	900.80	152.00	88.80	1,698,806	1,698,806

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
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Research & Development	0.567742	0.054883	0.190502	0.116880	0.020652	0.004894	0.008289	0.006425	0.000966	0.000407	0.024432	0.000950	0.002978

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						91.1168
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						91.1168
NaturalGas Mitigated	0.0113	0.1027	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003						112.4293
NaturalGas Unmitigated	0.0113	0.1027	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003						112.4293

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Research & Development	2.0944e+006	0.0113	0.1027	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003						112.4293
Total		**0.0113**	**0.1027**	**0.0862**	**6.2000e-004**		**7.8000e-003**	**7.8000e-003**		**7.8000e-003**	**7.8000e-003**						**112.4293**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Research & Development	2.0944e+006	0.0113	0.1027	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003						112.4293
Total		**0.0113**	**0.1027**	**0.0862**	**6.2000e-004**		**7.8000e-003**	**7.8000e-003**		**7.8000e-003**	**7.8000e-003**						**112.4293**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Research & Development	648000				91.1168
Total					**91.1168**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Research & Development	648000				91.1168
Total					**91.1168**

6.0 Area Detail

6.1 Mitigation Measures Area

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	0.3542	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.5200e-003
Unmitigated	0.3542	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.5200e-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	0.0417					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.3124					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	7.0000e-005	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.5200e-003
Total	**0.3542**	**1.0000e-005**	**7.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**1.5200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0417					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.3124					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	7.0000e-005	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000						1.5200e-003
Total	**0.3542**	**1.0000e-005**	**7.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**1.5200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				83.4705
Unmitigated				83.4705

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Research & Development	39.3355 / 0				83.4705
Total					**83.4705**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Research & Development	39.3355 / 0				83.4705
Total					**83.4705**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				3.0576
Unmitigated				3.0576

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Research & Development	6.08				3.0576
Total					**3.0576**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Research & Development	6.08				3.0576
Total					**3.0576**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Table AQ4-1C

SDC SVY05 AM PG

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	500.10	1000sqft	6.10	500,100.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company	Silicon Valley Power				
CO2 Intensity (lb/MWhr)	307.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Applicant data. Applicant data identified 9 phases, only 6 discrete phases are allowed. Consultant adjusted data to fit 6 phases as close as possible.

Land Use - Applicant data. Sq.ft is SVY04 plus AM plus PG. Parcel size is 6.1 acres.

Construction Phase - Applicant data. 9 phases combined into 6 phases, with timing and equipment adjustments.

Off-road Equipment - Applicant data wiht default data.

Off-road Equipment - Applicant data with default data.

Off-road Equipment - Applicant data. 2 demo phases combined into 1 phase, with default data.

Off-road Equipment - Applicant data with default data.

Off-road Equipment - Applicant data wiht default data.

Off-road Equipment - Applicant data with default data.

Trips and VMT - Defaults.

On-road Fugitive Dust - Defaults.

Demolition - Applicant data.

Grading - Applicant data.

Architectural Coating - Defaults.

Vehicle Trips - Daily employees = 30 + 125 +visitors + deliveries = 167. 167/500 = 0.334

Road Dust - No travel on unpaved roads associated with the facility.

Water And Wastewater - Water use adjusted for low employee count at facility.

Solid Waste - adjusted for low employee count at facility using 1.1.5 tons/employee/yr at 155 employees.

Construction Off-road Equipment Mitigation - Assumes all off-road const equipment is T4F.

Fleet Mix - Defaults.

Table Name	Column Name	Default Value	New Value
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	4.00
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	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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
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	75.00
tblConstructionPhase	NumDays	230.00	258.00
tblConstructionPhase	NumDays	20.00	98.00
tblConstructionPhase	NumDays	20.00	113.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	10.00	86.00
tblGrading	AcresOfGrading	84.75	6.10
tblGrading	AcresOfGrading	69.88	6.10
tblGrading	MaterialExported	0.00	12,000.00
tblGrading	MaterialExported	0.00	3,000.00
tblLandUse	LotAcreage	11.48	6.10
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblSolidWaste	SolidWasteGenerationRate	465.09	179.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,310.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblVehicleTrips	ST_TR	2.21	0.33
tblVehicleTrips	SU_TR	0.70	0.33
tblVehicleTrips	WD_TR	9.74	0.33
tblWater	IndoorWaterUseRate	88,884,647.37	3,510,000.00
tblWater	OutdoorWaterUseRate	54,477,687.10	1,000,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1328	1.3093	0.8984	2.3500e-003	0.1809	0.0567	0.2377	0.0764	0.0525	0.1289						210.7289
2023	3.0324	3.9443	4.0693	0.0106	0.5835	0.1582	0.7416	0.2464	0.1484	0.3949						966.9952
2024	0.0915	0.8353	1.1090	2.4900e-003	0.0595	0.0336	0.0931	0.0162	0.0315	0.0477						227.7791
Maximum	**3.0324**	**3.9443**	**4.0693**	**0.0106**	**0.5835**	**0.1582**	**0.7416**	**0.2464**	**0.1484**	**0.3949**						**966.9952**

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					
2022	0.0289	0.1672	1.1266	2.3500e-003	0.1809	3.9000e-003	0.1848	0.0764	3.8700e-003	0.0802						210.7287
2023	2.7476	1.0463	4.6756	0.0106	0.5835	0.0150	0.5985	0.2464	0.0148	0.2612						966.9945
2024	0.0339	0.2455	1.2307	2.4900e-003	0.0595	3.4500e-003	0.0630	0.0162	3.4000e-003	0.0196						227.7790
Maximum	**2.7476**	**1.0463**	**4.6756**	**0.0106**	**0.5835**	**0.0150**	**0.5985**	**0.2464**	**0.0148**	**0.2612**						**966.9945**

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	N20	CO2e
Percent Reduction	**13.70**	**76.04**	**-15.74**	**0.00**	**0.00**	**91.00**	**21.08**	**0.00**	**90.51**	**36.81**	**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	**10-1-2022**	**12-31-2022**	1.4519	0.1986
2	**1-1-2023**	**3-31-2023**	1.3353	0.2412
3	**4-1-2023**	**6-30-2023**	1.2760	0.3582
4	**7-1-2023**	**9-30-2023**	1.5892	1.0221
5	**10-1-2023**	**12-31-2023**	2.7743	2.1692
6	**1-1-2024**	**3-31-2024**	0.8371	0.2659
7	**4-1-2024**	**6-30-2024**	0.0772	0.0119
		Highest	2.7743	2.1692

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	2.2143	4.0000e-005	4.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.5200e-003
Energy	0.0437	0.3971	0.3336	2.3800e-003		0.0302	0.0302		0.0302	0.0302						1,642.3002
Mobile	0.0631	0.0685	0.6048	1.2900e-003	0.1475	9.1000e-004	0.1484	0.0394	8.5000e-004	0.0402						120.5791
Waste						0.0000	0.0000		0.0000	0.0000						90.0194
Water						0.0000	0.0000		0.0000	0.0000						7.9404
Total	**2.3211**	**0.4657**	**0.9430**	**3.6700e-003**	**0.1475**	**0.0311**	**0.1786**	**0.0394**	**0.0311**	**0.0704**						**1,860.8487**

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	2.2143	4.0000e-005	4.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.5200e-003
Energy	0.0437	0.3971	0.3336	2.3800e-003		0.0302	0.0302		0.0302	0.0302						1,642.3002
Mobile	0.0631	0.0685	0.6048	1.2900e-003	0.1475	9.1000e-004	0.1484	0.0394	8.5000e-004	0.0402						120.5791
Waste						0.0000	0.0000		0.0000	0.0000						90.0194
Water						0.0000	0.0000		0.0000	0.0000						7.9404
Total	**2.3211**	**0.4657**	**0.9430**	**3.6700e-003**	**0.1475**	**0.0311**	**0.1786**	**0.0394**	**0.0311**	**0.0704**						**1,860.8487**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2022	2/15/2023	5	98	2 bldgs demo
2	Site Preparation	Site Preparation	10/19/2022	2/15/2023	5	86	
3	Grading	Grading	1/1/2023	6/7/2023	5	113	

4	Building Construction	Building Construction	3/29/2023	3/22/2024	5	258	
5	Architectural Coating	Architectural Coating	9/1/2023	12/14/2023	5	75	
6	Paving	Paving	2/1/2024	5/1/2024	5	65	

Acres of Grading (Site Preparation Phase): 6.1

Acres of Grading (Grading Phase): 6.1

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 750,150; Non-Residential Outdoor: 250,050; 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	1	6.00	81	0.73
Demolition	Excavators	2	7.00	158	0.38
Demolition	Off-Highway Trucks	1	7.00	402	0.38
Demolition	Rubber Tired Dozers	2	7.00	247	0.40
Site Preparation	Graders	1	7.00	187	0.41
Site Preparation	Off-Highway Trucks	1	7.00	402	0.38
Site Preparation	Rubber Tired Dozers	1	6.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Grading	Excavators	1	6.00	158	0.38
Grading	Graders	1	6.00	187	0.41
Grading	Off-Highway Trucks	1	7.00	402	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Excavators	1	6.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74

Building Construction	Pumps	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Aerial Lifts	1	6.00	63	0.31
Architectural Coating	Air Compressors	2	6.00	78	0.48
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	637.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,500.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	160.00	82.00	1,310.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Demolition - 2022

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					0.0457	0.0000	0.0457	6.9200e-003	0.0000	6.9200e-003						0.0000
Off-Road	0.0829	0.7836	0.5737	1.3100e-003		0.0364	0.0364		0.0338	0.0338						115.4097
Total	**0.0829**	**0.7836**	**0.5737**	**1.3100e-003**	**0.0457**	**0.0364**	**0.0821**	**6.9200e-003**	**0.0338**	**0.0407**						**115.4097**

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-003	0.0366	7.6800e-003	1.3000e-004	3.5800e-003	3.3000e-004	3.9100e-003	9.9000e-004	3.2000e-004	1.3000e-003						13.9354
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.3100e-003	9.6000e-004	0.0118	3.0000e-005	3.8700e-003	2.0000e-005	3.8900e-003	1.0300e-003	2.0000e-005	1.0500e-003						3.0663
Total	**2.3100e-003**	**0.0375**	**0.0194**	**1.6000e-004**	**7.4500e-003**	**3.5000e-004**	**7.8000e-003**	**2.0200e-003**	**3.4000e-004**	**2.3500e-003**						**17.0017**

3.2 Demolition - 2022

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					0.0457	0.0000	0.0457	6.9200e-003	0.0000	6.9200e-003						0.0000
Off-Road	0.0157	0.0680	0.7035	1.3100e-003		2.0900e-003	2.0900e-003		2.0900e-003	2.0900e-003						115.4095
Total	**0.0157**	**0.0680**	**0.7035**	**1.3100e-003**	**0.0457**	**2.0900e-003**	**0.0478**	**6.9200e-003**	**2.0900e-003**	**9.0100e-003**						**115.4095**

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-003	0.0366	7.6800e-003	1.3000e-004	3.5800e-003	3.3000e-004	3.9100e-003	9.9000e-004	3.2000e-004	1.3000e-003						13.9354
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.3100e-003	9.6000e-004	0.0118	3.0000e-005	3.8700e-003	2.0000e-005	3.8900e-003	1.0300e-003	2.0000e-005	1.0500e-003						3.0663
Total	**2.3100e-003**	**0.0375**	**0.0194**	**1.6000e-004**	**7.4500e-003**	**3.5000e-004**	**7.8000e-003**	**2.0200e-003**	**3.4000e-004**	**2.3500e-003**						**17.0017**

3.2 Demolition - 2023

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					0.0232	0.0000	0.0232	3.5100e-003	0.0000	3.5100e-003						0.0000
Off-Road	0.0366	0.3340	0.2765	6.6000e-004		0.0149	0.0149		0.0138	0.0138						58.6051
Total	**0.0366**	**0.3340**	**0.2765**	**6.6000e-004**	**0.0232**	**0.0149**	**0.0381**	**3.5100e-003**	**0.0138**	**0.0174**						**58.6051**

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	2.2000e-004	0.0146	3.3800e-003	6.0000e-005	1.8200e-003	1.2000e-004	1.9400e-003	5.0000e-004	1.1000e-004	6.1000e-004						6.7316
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	4.3000e-004	5.5200e-003	2.0000e-005	1.9600e-003	1.0000e-005	1.9700e-003	5.2000e-004	1.0000e-005	5.3000e-004						1.5079
Total	**8.4000e-004**	**0.0150**	**8.9000e-003**	**8.0000e-005**	**3.7800e-003**	**1.3000e-004**	**3.9100e-003**	**1.0200e-003**	**1.2000e-004**	**1.1400e-003**						**8.2395**

3.2 Demolition - 2023

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					0.0232	0.0000	0.0232	3.5100e-003	0.0000	3.5100e-003						0.0000
Off-Road	7.9600e-003	0.0345	0.3572	6.6000e-004		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003						58.6051
Total	**7.9600e-003**	**0.0345**	**0.3572**	**6.6000e-004**	**0.0232**	**1.0600e-003**	**0.0243**	**3.5100e-003**	**1.0600e-003**	**4.5700e-003**						**58.6051**

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	2.2000e-004	0.0146	3.3800e-003	6.0000e-005	1.8200e-003	1.2000e-004	1.9400e-003	5.0000e-004	1.1000e-004	6.1000e-004						6.7316
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	4.3000e-004	5.5200e-003	2.0000e-005	1.9600e-003	1.0000e-005	1.9700e-003	5.2000e-004	1.0000e-005	5.3000e-004						1.5079
Total	**8.4000e-004**	**0.0150**	**8.9000e-003**	**8.0000e-005**	**3.7800e-003**	**1.3000e-004**	**3.9100e-003**	**1.0200e-003**	**1.2000e-004**	**1.1400e-003**						**8.2395**

3.3 Site Preparation - 2022

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					0.1231	0.0000	0.1231	0.0662	0.0000	0.0662						0.0000
Off-Road	0.0462	0.4675	0.2928	7.7000e-004		0.0197	0.0197		0.0182	0.0182						68.5281
Total	**0.0462**	**0.4675**	**0.2928**	**7.7000e-004**	**0.1231**	**0.0197**	**0.1428**	**0.0662**	**0.0182**	**0.0843**						**68.5281**

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	5.5000e-004	0.0200	4.2000e-003	7.0000e-005	1.9600e-003	1.8000e-004	2.1400e-003	5.4000e-004	1.7000e-004	7.1000e-004						7.6226
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	9.2000e-004	6.8000e-004	8.3000e-003	2.0000e-005	2.7300e-003	1.0000e-005	2.7500e-003	7.3000e-004	1.0000e-005	7.4000e-004						2.1669
Total	**1.4700e-003**	**0.0207**	**0.0125**	**9.0000e-005**	**4.6900e-003**	**1.9000e-004**	**4.8900e-003**	**1.2700e-003**	**1.8000e-004**	**1.4500e-003**						**9.7894**

3.3 Site Preparation - 2022

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					0.1231	0.0000	0.1231	0.0662	0.0000	0.0662						0.0000
Off-Road	9.4700e-003	0.0410	0.3912	7.7000e-004		1.2600e-003	1.2600e-003		1.2600e-003	1.2600e-003						68.5280
Total	**9.4700e-003**	**0.0410**	**0.3912**	**7.7000e-004**	**0.1231**	**1.2600e-003**	**0.1244**	**0.0662**	**1.2600e-003**	**0.0674**						**68.5280**

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	5.5000e-004	0.0200	4.2000e-003	7.0000e-005	1.9600e-003	1.8000e-004	2.1400e-003	5.4000e-004	1.7000e-004	7.1000e-004						7.6226
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	9.2000e-004	6.8000e-004	8.3000e-003	2.0000e-005	2.7300e-003	1.0000e-005	2.7500e-003	7.3000e-004	1.0000e-005	7.4000e-004						2.1669
Total	**1.4700e-003**	**0.0207**	**0.0125**	**9.0000e-005**	**4.6900e-003**	**1.9000e-004**	**4.8900e-003**	**1.2700e-003**	**1.8000e-004**	**1.4500e-003**						**9.7894**

3.3 Site Preparation - 2023

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					0.0779	0.0000	0.0779	0.0413	0.0000	0.0413						0.0000
Off-Road	0.0257	0.2512	0.1748	4.8000e-004		0.0102	0.0102		9.3800e-003	9.3800e-003						42.6833
Total	**0.0257**	**0.2512**	**0.1748**	**4.8000e-004**	**0.0779**	**0.0102**	**0.0881**	**0.0413**	**9.3800e-003**	**0.0507**						**42.6833**

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	1.5000e-004	9.7800e-003	2.2700e-003	4.0000e-005	1.2200e-003	8.0000e-005	1.3000e-003	3.4000e-004	8.0000e-005	4.1000e-004						4.5158
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	5.4000e-004	3.7000e-004	4.7900e-003	1.0000e-005	1.7000e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004						1.3068
Total	**6.9000e-004**	**0.0102**	**7.0600e-003**	**5.0000e-005**	**2.9200e-003**	**9.0000e-005**	**3.0100e-003**	**7.9000e-004**	**9.0000e-005**	**8.7000e-004**						**5.8227**

3.3 Site Preparation - 2023

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					0.0779	0.0000	0.0779	0.0413	0.0000	0.0413						0.0000
Off-Road	5.9000e-003	0.0256	0.2436	4.8000e-004		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004						42.6832
Total	**5.9000e-003**	**0.0256**	**0.2436**	**4.8000e-004**	**0.0779**	**7.9000e-004**	**0.0787**	**0.0413**	**7.9000e-004**	**0.0421**						**42.6832**

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	1.5000e-004	9.7800e-003	2.2700e-003	4.0000e-005	1.2200e-003	8.0000e-005	1.3000e-003	3.4000e-004	8.0000e-005	4.1000e-004						4.5158
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	5.4000e-004	3.7000e-004	4.7900e-003	1.0000e-005	1.7000e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004						1.3068
Total	**6.9000e-004**	**0.0102**	**7.0600e-003**	**5.0000e-005**	**2.9200e-003**	**9.0000e-005**	**3.0100e-003**	**7.9000e-004**	**9.0000e-005**	**8.7000e-004**						**5.8227**

3.4 Grading - 2023

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					0.2591	0.0000	0.2591	0.1407	0.0000	0.1407						0.0000
Off-Road	0.0953	0.9147	0.7561	1.8700e-003		0.0381	0.0381		0.0351	0.0351						165.2949
Total	**0.0953**	**0.9147**	**0.7561**	**1.8700e-003**	**0.2591**	**0.0381**	**0.2972**	**0.1407**	**0.0351**	**0.1758**						**165.2949**

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	1.5700e-003	0.1019	0.0237	4.5000e-004	0.0127	8.2000e-004	0.0136	3.5000e-003	7.9000e-004	4.2900e-003						47.0742
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.1200e-003	1.4700e-003	0.0189	6.0000e-005	6.7200e-003	3.0000e-005	6.7500e-003	1.7900e-003	3.0000e-005	1.8200e-003						5.1633
Total	**3.6900e-003**	**0.1034**	**0.0426**	**5.1000e-004**	**0.0195**	**8.5000e-004**	**0.0203**	**5.2900e-003**	**8.2000e-004**	**6.1100e-003**						**52.2375**

3.4 Grading - 2023

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					0.2591	0.0000	0.2591	0.1407	0.0000	0.1407						0.0000
Off-Road	0.0228	0.0990	1.0122	1.8700e-003		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003						165.2947
Total	**0.0228**	**0.0990**	**1.0122**	**1.8700e-003**	**0.2591**	**3.0500e-003**	**0.2622**	**0.1407**	**3.0500e-003**	**0.1438**						**165.2947**

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	1.5700e-003	0.1019	0.0237	4.5000e-004	0.0127	8.2000e-004	0.0136	3.5000e-003	7.9000e-004	4.2900e-003						47.0742
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.1200e-003	1.4700e-003	0.0189	6.0000e-005	6.7200e-003	3.0000e-005	6.7500e-003	1.7900e-003	3.0000e-005	1.8200e-003						5.1633
Total	**3.6900e-003**	**0.1034**	**0.0426**	**5.1000e-004**	**0.0195**	**8.5000e-004**	**0.0203**	**5.2900e-003**	**8.2000e-004**	**6.1100e-003**						**52.2375**

3.5 Building Construction - 2023

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	0.1941	1.7435	2.1267	3.5400e-003		0.0849	0.0849		0.0804	0.0804						306.8249
Total	**0.1941**	**1.7435**	**2.1267**	**3.5400e-003**		**0.0849**	**0.0849**		**0.0804**	**0.0804**						**306.8249**

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	1.0500e-003	0.0683	0.0159	3.0000e-004	8.5300e-003	5.5000e-004	9.0800e-003	2.3500e-003	5.3000e-004	2.8700e-003						31.5507
Vendor	8.9100e-003	0.3616	0.1139	1.6600e-003	0.0534	2.1200e-003	0.0556	0.0155	2.0300e-003	0.0175						168.5619
Worker	0.0396	0.0276	0.3536	1.0400e-003	0.1256	6.2000e-004	0.1263	0.0334	5.7000e-004	0.0340						96.5033
Total	**0.0495**	**0.4575**	**0.4833**	**3.0000e-003**	**0.1876**	**3.2900e-003**	**0.1909**	**0.0512**	**3.1300e-003**	**0.0543**						**296.6158**

3.5 Building Construction - 2023

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	0.0421	0.2628	2.3207	3.5400e-003		5.3200e-003	5.3200e-003		5.3200e-003	5.3200e-003						306.8245
Total	**0.0421**	**0.2628**	**2.3207**	**3.5400e-003**		**5.3200e-003**	**5.3200e-003**		**5.3200e-003**	**5.3200e-003**						**306.8245**

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	1.0500e-003	0.0683	0.0159	3.0000e-004	8.5300e-003	5.5000e-004	9.0800e-003	2.3500e-003	5.3000e-004	2.8700e-003						31.5507
Vendor	8.9100e-003	0.3616	0.1139	1.6600e-003	0.0534	2.1200e-003	0.0556	0.0155	2.0300e-003	0.0175						168.5619
Worker	0.0396	0.0276	0.3536	1.0400e-003	0.1256	6.2000e-004	0.1263	0.0334	5.7000e-004	0.0340						96.5033
Total	**0.0495**	**0.4575**	**0.4833**	**3.0000e-003**	**0.1876**	**3.2900e-003**	**0.1909**	**0.0512**	**3.1300e-003**	**0.0543**						**296.6158**

3.5 Building Construction - 2024

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	0.0551	0.4929	0.6422	1.0700e-003		0.0226	0.0226		0.0214	0.0214						92.9909
Total	**0.0551**	**0.4929**	**0.6422**	**1.0700e-003**		**0.0226**	**0.0226**		**0.0214**	**0.0214**						**92.9909**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0207	4.8400e-003	9.0000e-005	2.5900e-003	1.7000e-004	2.7500e-003	7.1000e-004	1.6000e-004	8.7000e-004						9.4094
Vendor	2.6300e-003	0.1096	0.0339	5.0000e-004	0.0162	6.5000e-004	0.0168	4.6800e-003	6.2000e-004	5.3000e-003						50.3244
Worker	0.0112	7.4700e-003	0.1000	3.1000e-004	0.0381	1.8000e-004	0.0383	0.0101	1.6000e-004	0.0103						28.2990
Total	**0.0142**	**0.1378**	**0.1387**	**9.0000e-004**	**0.0569**	**1.0000e-003**	**0.0578**	**0.0155**	**9.4000e-004**	**0.0165**						**88.0328**

3.5 Building Construction - 2024

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	0.0127	0.0797	0.7032	1.0700e-003		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003						92.9908
Total	**0.0127**	**0.0797**	**0.7032**	**1.0700e-003**		**1.6100e-003**	**1.6100e-003**		**1.6100e-003**	**1.6100e-003**						**92.9908**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0207	4.8400e-003	9.0000e-005	2.5900e-003	1.7000e-004	2.7500e-003	7.1000e-004	1.6000e-004	8.7000e-004						9.4094
Vendor	2.6300e-003	0.1096	0.0339	5.0000e-004	0.0162	6.5000e-004	0.0168	4.6800e-003	6.2000e-004	5.3000e-003						50.3244
Worker	0.0112	7.4700e-003	0.1000	3.1000e-004	0.0381	1.8000e-004	0.0383	0.0101	1.6000e-004	0.0103						28.2990
Total	**0.0142**	**0.1378**	**0.1387**	**9.0000e-004**	**0.0569**	**1.0000e-003**	**0.0578**	**0.0155**	**9.4000e-004**	**0.0165**						**88.0328**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6077					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	0.0154	0.1127	0.1666	2.7000e-004		5.5700e-003	5.5700e-003		5.5500e-003	5.5500e-003						23.3608
Total	**2.6231**	**0.1127**	**0.1666**	**2.7000e-004**		**5.5700e-003**	**5.5700e-003**		**5.5500e-003**	**5.5500e-003**						**23.3608**

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	3.0000e-003	2.0900e-003	0.0268	8.0000e-005	9.5200e-003	5.0000e-005	9.5600e-003	2.5300e-003	4.0000e-005	2.5700e-003						7.3109
Total	**3.0000e-003**	**2.0900e-003**	**0.0268**	**8.0000e-005**	**9.5200e-003**	**5.0000e-005**	**9.5600e-003**	**2.5300e-003**	**4.0000e-005**	**2.5700e-003**						**7.3109**

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6077					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	3.3900e-003	0.0362	0.1733	2.7000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004						23.3607
Total	**2.6111**	**0.0362**	**0.1733**	**2.7000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**						**23.3607**

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	3.0000e-003	2.0900e-003	0.0268	8.0000e-005	9.5200e-003	5.0000e-005	9.5600e-003	2.5300e-003	4.0000e-005	2.5700e-003						7.3109
Total	**3.0000e-003**	**2.0900e-003**	**0.0268**	**8.0000e-005**	**9.5200e-003**	**5.0000e-005**	**9.5600e-003**	**2.5300e-003**	**4.0000e-005**	**2.5700e-003**						**7.3109**

3.7 Paving - 2024

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	0.0214	0.2034	0.3212	5.0000e-004		9.9600e-003	9.9600e-003		9.1600e-003	9.1600e-003						44.5305
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**0.0214**	**0.2034**	**0.3212**	**5.0000e-004**		**9.9600e-003**	**9.9600e-003**		**9.1600e-003**	**9.1600e-003**						**44.5305**

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	6.8000e-004	1.6000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005						0.3089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	7.6000e-004	5.1000e-004	6.7700e-003	2.0000e-005	2.5800e-003	1.0000e-005	2.5900e-003	6.9000e-004	1.0000e-005	7.0000e-004						1.9161
Total	**7.7000e-004**	**1.1900e-003**	**6.9300e-003**	**2.0000e-005**	**2.6600e-003**	**2.0000e-005**	**2.6800e-003**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**						**2.2249**

3.7 Paving - 2024

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	6.1900e-003	0.0268	0.3818	5.0000e-004		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004						44.5305
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**6.1900e-003**	**0.0268**	**0.3818**	**5.0000e-004**		**8.3000e-004**	**8.3000e-004**		**8.3000e-004**	**8.3000e-004**						**44.5305**

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	6.8000e-004	1.6000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005						0.3089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	7.6000e-004	5.1000e-004	6.7700e-003	2.0000e-005	2.5800e-003	1.0000e-005	2.5900e-003	6.9000e-004	1.0000e-005	7.0000e-004						1.9161
Total	**7.7000e-004**	**1.1900e-003**	**6.9300e-003**	**2.0000e-005**	**2.6600e-003**	**2.0000e-005**	**2.6800e-003**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**						**2.2249**

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	0.0631	0.0685	0.6048	1.2900e-003	0.1475	9.1000e-004	0.1484	0.0394	8.5000e-004	0.0402						120.5791
Unmitigated	0.0631	0.0685	0.6048	1.2900e-003	0.1475	9.1000e-004	0.1484	0.0394	8.5000e-004	0.0402						120.5791

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	167.03	167.03	167.03	399,169	399,169
Total	167.03	167.03	167.03	399,169	399,169

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	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720

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						1,207.3978
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						1,207.3978
NaturalGas Mitigated	0.0437	0.3971	0.3336	2.3800e-003		0.0302	0.0302		0.0302	0.0302						434.9024
NaturalGas Unmitigated	0.0437	0.3971	0.3336	2.3800e-003		0.0302	0.0302		0.0302	0.0302						434.9024

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	8.10162e+006	0.0437	0.3971	0.3336	2.3800e-003		0.0302	0.0302		0.0302	0.0302						434.9024
Total		**0.0437**	**0.3971**	**0.3336**	**2.3800e-003**		**0.0302**	**0.0302**		**0.0302**	**0.0302**						**434.9024**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	8.10162e+006	0.0437	0.3971	0.3336	2.3800e-003		0.0302	0.0302		0.0302	0.0302						434.9024
Total		**0.0437**	**0.3971**	**0.3336**	**2.3800e-003**		**0.0302**	**0.0302**		**0.0302**	**0.0302**						**434.9024**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	8.58672e+006				1,207.3978
Total					**1,207.3978**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	8.58672e+006				1,207.3978
Total					**1,207.3978**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2143	4.0000e-005	4.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.5200e-003
Unmitigated	2.2143	4.0000e-005	4.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.5200e-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	0.2608					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.9531					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	4.2000e-004	4.0000e-005	4.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.5200e-003
Total	**2.2143**	**4.0000e-005**	**4.5800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**						**9.5200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2608					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.9531					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	4.2000e-004	4.0000e-005	4.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.5200e-003
Total	**2.2143**	**4.0000e-005**	**4.5800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**						**9.5200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				7.9404
Unmitigated				7.9404

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	3.51 / 1				7.9404
Total					**7.9404**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	3.51 / 1				7.9404
Total					**7.9404**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				90.0194
Unmitigated				90.0194

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	179				90.0194
Total					**90.0194**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	179				90.0194
Total					**90.0194**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Table AQ4-1D

SDC SVY06

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	288.00	1000sqft	3.68	288,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Silicon Valley Power				
CO2 Intensity (lb/MWhr)	307.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Applicant data.

Land Use - Applicant data.

Construction Phase - Applicant data.

Off-road Equipment - Applicant data with default data.

Off-road Equipment - Applicant data with default data.

Off-road Equipment - Applicant data wiht default data.

Off-road Equipment - Applicant data wtih default data.

Off-road Equipment - Applicant data with default data.

Trips and VMT - Applicant data withe default data. Cement haul trips added to building const. Asphalt haul trips added to paving.

Grading - Applicant data with default data.

Vehicle Trips - Applicant data wiht default data. 42 employees + visitors + deliveries = 51 at 288,000 sq.ft. = 0.18 trips/1000 sq,ft.day.

Road Dust - No unpaved road travel associated wiht this facility.

Water And Wastewater - Water use revised based on low employee count at facility.

Solid Waste - Waste generation revised based on low employee count at facility.

Construction Off-road Equipment Mitigation - Assumes all off-road const equipment is T4F.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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
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

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
tblConstructionPhase	NumDays	18.00	113.00
tblConstructionPhase	NumDays	230.00	237.00
tblConstructionPhase	NumDays	8.00	98.00
tblConstructionPhase	NumDays	18.00	44.00
tblConstructionPhase	NumDays	5.00	41.00
tblGrading	AcresOfGrading	98.00	3.68
tblGrading	AcresOfGrading	38.44	3.68
tblGrading	MaterialExported	0.00	12,000.00
tblGrading	MaterialExported	0.00	3,750.00
tblLandUse	LotAcreage	6.61	3.68
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblSolidWaste	SolidWasteGenerationRate	267.84	48.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,413.00
tblTripsAndVMT	HaulingTripNumber	0.00	11.00

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

tblVehicleTrips	ST_TR	2.21	0.18
tblVehicleTrips	SU_TR	0.70	0.18
tblVehicleTrips	WD_TR	9.74	0.18
tblWater	IndoorWaterUseRate	51,187,319.42	269,000.00
tblWater	OutdoorWaterUseRate	31,372,873.19	100,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.5494	2.9995	3.0815	8.0900e-003	0.5307	0.1165	0.6472	0.2599	0.1088	0.3687						734.8531
2025	1.4189	1.1955	1.6502	3.8000e-003	0.0634	0.0454	0.1089	0.0173	0.0431	0.0604						342.5654
Maximum	**1.4189**	**2.9995**	**3.0815**	**8.0900e-003**	**0.5307**	**0.1165**	**0.6472**	**0.2599**	**0.1088**	**0.3687**						**734.8531**

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					
2024	0.3242	0.7327	3.7727	8.0900e-003	0.5307	0.0123	0.5431	0.2599	0.0122	0.2721						734.8524
2025	1.3253	0.3676	1.9138	3.8000e-003	0.0634	5.4500e-003	0.0689	0.0173	5.3900e-003	0.0227						342.5651
Maximum	**1.3253**	**0.7327**	**3.7727**	**8.0900e-003**	**0.5307**	**0.0123**	**0.5431**	**0.2599**	**0.0122**	**0.2721**						**734.8524**

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	N20	CO2e
Percent Reduction	16.19	73.77	-20.18	0.00	0.00	89.03	19.07	0.00	88.43	31.31	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	1-29-2024	4-28-2024	1.1677	0.2343
2	4-29-2024	7-28-2024	0.7825	0.1901
3	7-29-2024	10-28-2024	0.7905	0.2308
4	10-29-2024	1-28-2025	1.3211	0.7417
5	1-29-2025	4-28-2025	1.7274	1.1303
6	4-29-2025	7-28-2025	0.3595	0.2096
		Highest	1.7274	1.1303

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	1.2752	2.0000e-005	2.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.4800e-003
Energy	0.0252	0.2287	0.1921	1.3700e-003		0.0174	0.0174		0.0174	0.0174						945.7758
Mobile	0.0188	0.0202	0.1810	3.9000e-004	0.0458	2.7000e-004	0.0461	0.0122	2.5000e-004	0.0125						36.3161
Waste						0.0000	0.0000		0.0000	0.0000						24.1393
Water						0.0000	0.0000		0.0000	0.0000						0.6200
Total	**1.3192**	**0.2489**	**0.3757**	**1.7600e-003**	**0.0458**	**0.0177**	**0.0634**	**0.0122**	**0.0176**	**0.0299**						**1,006.8567**

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	1.2752	2.0000e-005	2.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.4800e-003
Energy	0.0252	0.2287	0.1921	1.3700e-003		0.0174	0.0174		0.0174	0.0174						945.7758
Mobile	0.0188	0.0202	0.1810	3.9000e-004	0.0458	2.7000e-004	0.0461	0.0122	2.5000e-004	0.0125						36.3161
Waste						0.0000	0.0000		0.0000	0.0000						24.1393
Water						0.0000	0.0000		0.0000	0.0000						0.6200
Total	**1.3192**	**0.2489**	**0.3757**	**1.7600e-003**	**0.0458**	**0.0177**	**0.0634**	**0.0122**	**0.0176**	**0.0299**						**1,006.8567**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/29/2024	3/25/2024	5	41	
2	Grading	Grading	2/1/2024	6/17/2024	5	98	
3	Building Construction	Building Construction	6/18/2024	5/14/2025	5	237	

4	Architectural Coating	Architectural Coating	12/9/2024	5/14/2025	5	113	
5	Paving	Paving	4/1/2025	6/1/2025	5	44	

Acres of Grading (Site Preparation Phase): 3.68

Acres of Grading (Grading Phase): 3.68

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 432,000; Non-Residential Outdoor: 144,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	7.00	187	0.41
Site Preparation	Off-Highway Trucks	1	7.00	402	0.38
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	1	7.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Excavators	1	7.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Off-Highway Trucks	1	7.00	402	0.38
Building Construction	Pumps	1	7.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	1	8.00	130	0.42

Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	1	6.00	80	0.38
Architectural Coating	Aerial Lifts	1	7.00	63	0.31
Architectural Coating	Air Compressors	2	6.00	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
Site Preparation	5	13.00	0.00	469.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	1,500.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	92.00	47.00	1,413.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	11.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	18.00	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

3.2 Site Preparation - 2024

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					0.1256	0.0000	0.1256	0.0681	0.0000	0.0681						0.0000
Off-Road	0.0354	0.3397	0.2439	6.6000e-004		0.0139	0.0139		0.0128	0.0128						58.3289
Total	**0.0354**	**0.3397**	**0.2439**	**6.6000e-004**	**0.1256**	**0.0139**	**0.1395**	**0.0681**	**0.0128**	**0.0809**						**58.3289**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0319	7.4500e-003	1.4000e-004	3.9800e-003	2.6000e-004	4.2400e-003	1.0900e-003	2.5000e-004	1.3400e-003						14.4855
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	4.1000e-004	5.5500e-003	2.0000e-005	2.1100e-003	1.0000e-005	2.1200e-003	5.6000e-004	1.0000e-005	5.7000e-004						1.5712
Total	**1.1100e-003**	**0.0323**	**0.0130**	**1.6000e-004**	**6.0900e-003**	**2.7000e-004**	**6.3600e-003**	**1.6500e-003**	**2.6000e-004**	**1.9100e-003**						**16.0567**

3.2 Site Preparation - 2024

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					0.1256	0.0000	0.1256	0.0681	0.0000	0.0681						0.0000
Off-Road	8.0600e-003	0.0349	0.3343	6.6000e-004		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003						58.3289
Total	**8.0600e-003**	**0.0349**	**0.3343**	**6.6000e-004**	**0.1256**	**1.0700e-003**	**0.1267**	**0.0681**	**1.0700e-003**	**0.0692**						**58.3289**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0319	7.4500e-003	1.4000e-004	3.9800e-003	2.6000e-004	4.2400e-003	1.0900e-003	2.5000e-004	1.3400e-003						14.4855
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	4.1000e-004	5.5500e-003	2.0000e-005	2.1100e-003	1.0000e-005	2.1200e-003	5.6000e-004	1.0000e-005	5.7000e-004						1.5712
Total	**1.1100e-003**	**0.0323**	**0.0130**	**1.6000e-004**	**6.0900e-003**	**2.7000e-004**	**6.3600e-003**	**1.6500e-003**	**2.6000e-004**	**1.9100e-003**						**16.0567**

3.3 Grading - 2024

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					0.2977	0.0000	0.2977	0.1625	0.0000	0.1625						0.0000
Off-Road	0.1045	0.9750	0.9130	2.1200e-003		0.0408	0.0408		0.0375	0.0375						187.8434
Total	**0.1045**	**0.9750**	**0.9130**	**2.1200e-003**	**0.2977**	**0.0408**	**0.3385**	**0.1625**	**0.0375**	**0.2000**						**187.8434**

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	1.5600e-003	0.1020	0.0238	4.5000e-004	0.0127	8.3000e-004	0.0136	3.5000e-003	8.0000e-004	4.3000e-003						46.3288
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.0700e-003	1.3700e-003	0.0184	6.0000e-005	7.0000e-003	3.0000e-005	7.0300e-003	1.8600e-003	3.0000e-005	1.8900e-003						5.2000
Total	**3.6300e-003**	**0.1034**	**0.0422**	**5.1000e-004**	**0.0197**	**8.6000e-004**	**0.0206**	**5.3600e-003**	**8.3000e-004**	**6.1900e-003**						**51.5288**

3.3 Grading - 2024

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					0.2977	0.0000	0.2977	0.1625	0.0000	0.1625						0.0000
Off-Road	0.0260	0.1126	1.2012	2.1200e-003		3.4600e-003	3.4600e-003		3.4600e-003	3.4600e-003						187.8432
Total	**0.0260**	**0.1126**	**1.2012**	**2.1200e-003**	**0.2977**	**3.4600e-003**	**0.3012**	**0.1625**	**3.4600e-003**	**0.1660**						**187.8432**

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	1.5600e-003	0.1020	0.0238	4.5000e-004	0.0127	8.3000e-004	0.0136	3.5000e-003	8.0000e-004	4.3000e-003						46.3288
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.0700e-003	1.3700e-003	0.0184	6.0000e-005	7.0000e-003	3.0000e-005	7.0300e-003	1.8600e-003	3.0000e-005	1.8900e-003						5.2000
Total	**3.6300e-003**	**0.1034**	**0.0422**	**5.1000e-004**	**0.0197**	**8.6000e-004**	**0.0206**	**5.3600e-003**	**8.3000e-004**	**6.1900e-003**						**51.5288**

3.4 Building Construction - 2024

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	0.1555	1.3093	1.6332	3.2500e-003		0.0580	0.0580		0.0549	0.0549						282.7529
Total	**0.1555**	**1.3093**	**1.6332**	**3.2500e-003**		**0.0580**	**0.0580**		**0.0549**	**0.0549**						**282.7529**

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	8.8000e-004	0.0572	0.0134	2.5000e-004	7.1300e-003	4.7000e-004	7.6000e-003	1.9600e-003	4.5000e-004	2.4100e-003						25.9641
Vendor	3.5400e-003	0.1476	0.0456	6.7000e-004	0.0218	8.8000e-004	0.0227	6.3100e-003	8.4000e-004	7.1400e-003						67.7845
Worker	0.0152	0.0101	0.1351	4.1000e-004	0.0514	2.4000e-004	0.0517	0.0137	2.2000e-004	0.0139						38.2391
Total	**0.0196**	**0.2149**	**0.1941**	**1.3300e-003**	**0.0804**	**1.5900e-003**	**0.0820**	**0.0220**	**1.5100e-003**	**0.0235**						**131.9876**

3.4 Building Construction - 2024

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	0.0387	0.2252	1.9440	3.2500e-003		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003						282.7526
Total	**0.0387**	**0.2252**	**1.9440**	**3.2500e-003**		**4.9600e-003**	**4.9600e-003**		**4.9600e-003**	**4.9600e-003**						**282.7526**

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	8.8000e-004	0.0572	0.0134	2.5000e-004	7.1300e-003	4.7000e-004	7.6000e-003	1.9600e-003	4.5000e-004	2.4100e-003						25.9641
Vendor	3.5400e-003	0.1476	0.0456	6.7000e-004	0.0218	8.8000e-004	0.0227	6.3100e-003	8.4000e-004	7.1400e-003						67.7845
Worker	0.0152	0.0101	0.1351	4.1000e-004	0.0514	2.4000e-004	0.0517	0.0137	2.2000e-004	0.0139						38.2391
Total	**0.0196**	**0.2149**	**0.1941**	**1.3300e-003**	**0.0804**	**1.5900e-003**	**0.0820**	**0.0220**	**1.5100e-003**	**0.0235**						**131.9876**

3.4 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	0.0992	0.8161	1.1052	2.2100e-003		0.0341	0.0341		0.0322	0.0322						192.5064
Total	**0.0992**	**0.8161**	**1.1052**	**2.2100e-003**		**0.0341**	**0.0341**		**0.0322**	**0.0322**						**192.5064**

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	5.9000e-004	0.0387	9.1300e-003	1.7000e-004	4.8600e-003	3.2000e-004	5.1800e-003	1.3400e-003	3.0000e-004	1.6400e-003						17.3374
Vendor	2.3500e-003	0.1001	0.0306	4.5000e-004	0.0149	6.0000e-004	0.0155	4.2900e-003	5.7000e-004	4.8600e-003						45.3651
Worker	9.7400e-003	6.2000e-003	0.0863	2.7000e-004	0.0350	1.6000e-004	0.0352	9.3100e-003	1.5000e-004	9.4600e-003						25.1667
Total	**0.0127**	**0.1450**	**0.1260**	**8.9000e-004**	**0.0547**	**1.0800e-003**	**0.0558**	**0.0149**	**1.0200e-003**	**0.0160**						**87.8692**

3.4 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	0.0264	0.1533	1.3236	2.2100e-003		3.3700e-003	3.3700e-003		3.3700e-003	3.3700e-003						192.5061
Total	**0.0264**	**0.1533**	**1.3236**	**2.2100e-003**		**3.3700e-003**	**3.3700e-003**		**3.3700e-003**	**3.3700e-003**						**192.5061**

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	5.9000e-004	0.0387	9.1300e-003	1.7000e-004	4.8600e-003	3.2000e-004	5.1800e-003	1.3400e-003	3.0000e-004	1.6400e-003						17.3374
Vendor	2.3500e-003	0.1001	0.0306	4.5000e-004	0.0149	6.0000e-004	0.0155	4.2900e-003	5.7000e-004	4.8600e-003						45.3651
Worker	9.7400e-003	6.2000e-003	0.0863	2.7000e-004	0.0350	1.6000e-004	0.0352	9.3100e-003	1.5000e-004	9.4600e-003						25.1667
Total	**0.0127**	**0.1450**	**0.1260**	**8.9000e-004**	**0.0547**	**1.0800e-003**	**0.0558**	**0.0149**	**1.0200e-003**	**0.0160**						**87.8692**

3.5 Architectural Coating - 2024

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	0.2259					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	3.3300e-003	0.0246	0.0389	6.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003						5.4527
Total	**0.2293**	**0.0246**	**0.0389**	**6.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**						**5.4527**

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	2.4000e-004	3.1900e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						0.9020
Total	**3.6000e-004**	**2.4000e-004**	**3.1900e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**						**0.9020**

3.5 Architectural Coating - 2024

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	0.2259					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	8.1000e-004	9.2100e-003	0.0406	6.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005						5.4527
Total	**0.2267**	**9.2100e-003**	**0.0406**	**6.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**						**5.4527**

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	2.4000e-004	3.1900e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						0.9020
Total	**3.6000e-004**	**2.4000e-004**	**3.1900e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**						**0.9020**

3.5 Architectural Coating - 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					
Archit. Coating	1.2758					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	0.0178	0.1318	0.2195	3.6000e-004		5.3200e-003	5.3200e-003		5.2900e-003	5.2900e-003						30.7909
Total	**1.2936**	**0.1318**	**0.2195**	**3.6000e-004**		**5.3200e-003**	**5.3200e-003**		**5.2900e-003**	**5.2900e-003**						**30.7909**

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	1.9100e-003	1.2100e-003	0.0169	5.0000e-005	6.8500e-003	3.0000e-005	6.8800e-003	1.8200e-003	3.0000e-005	1.8500e-003						4.9239
Total	**1.9100e-003**	**1.2100e-003**	**0.0169**	**5.0000e-005**	**6.8500e-003**	**3.0000e-005**	**6.8800e-003**	**1.8200e-003**	**3.0000e-005**	**1.8500e-003**						**4.9239**

3.5 Architectural Coating - 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					
Archit. Coating	1.2758					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	4.5900e-003	0.0520	0.2294	3.6000e-004		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004						30.7908
Total	**1.2804**	**0.0520**	**0.2294**	**3.6000e-004**		**5.0000e-004**	**5.0000e-004**		**5.0000e-004**	**5.0000e-004**						**30.7908**

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	1.9100e-003	1.2100e-003	0.0169	5.0000e-005	6.8500e-003	3.0000e-005	6.8800e-003	1.8200e-003	3.0000e-005	1.8500e-003						4.9239
Total	**1.9100e-003**	**1.2100e-003**	**0.0169**	**5.0000e-005**	**6.8500e-003**	**3.0000e-005**	**6.8800e-003**	**1.8200e-003**	**3.0000e-005**	**1.8500e-003**						**4.9239**

3.6 Paving - 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	0.0109	0.1004	0.1782	2.8000e-004		4.8900e-003	4.8900e-003		4.5000e-003	4.5000e-003						24.8881
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**0.0109**	**0.1004**	**0.1782**	**2.8000e-004**		**4.8900e-003**	**4.8900e-003**		**4.5000e-003**	**4.5000e-003**						**24.8881**

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	7.4000e-004	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005						0.3332
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.9000e-004	3.1000e-004	4.3000e-003	1.0000e-005	1.7400e-003	1.0000e-005	1.7500e-003	4.6000e-004	1.0000e-005	4.7000e-004						1.2538
Total	**5.0000e-004**	**1.0500e-003**	**4.4800e-003**	**1.0000e-005**	**1.8300e-003**	**2.0000e-005**	**1.8500e-003**	**4.9000e-004**	**2.0000e-005**	**5.0000e-004**						**1.5870**

3.6 Paving - 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	3.4600e-003	0.0150	0.2135	2.8000e-004		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004						24.8880
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**3.4600e-003**	**0.0150**	**0.2135**	**2.8000e-004**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**						**24.8880**

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	7.4000e-004	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005						0.3332
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.9000e-004	3.1000e-004	4.3000e-003	1.0000e-005	1.7400e-003	1.0000e-005	1.7500e-003	4.6000e-004	1.0000e-005	4.7000e-004						1.2538
Total	**5.0000e-004**	**1.0500e-003**	**4.4800e-003**	**1.0000e-005**	**1.8300e-003**	**2.0000e-005**	**1.8500e-003**	**4.9000e-004**	**2.0000e-005**	**5.0000e-004**						**1.5870**

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	0.0188	0.0202	0.1810	3.9000e-004	0.0458	2.7000e-004	0.0461	0.0122	2.5000e-004	0.0125						36.3161
Unmitigated	0.0188	0.0202	0.1810	3.9000e-004	0.0458	2.7000e-004	0.0461	0.0122	2.5000e-004	0.0125						36.3161

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	51.84	51.84	51.84	123,885	123,885
Total	51.84	51.84	51.84	123,885	123,885

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

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						695.3221
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						695.3221
NaturalGas Mitigated	0.0252	0.2287	0.1921	1.3700e-003		0.0174	0.0174		0.0174	0.0174						250.4537
NaturalGas Unmitigated	0.0252	0.2287	0.1921	1.3700e-003		0.0174	0.0174		0.0174	0.0174						250.4537

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	4.6656e+006	0.0252	0.2287	0.1921	1.3700e-003		0.0174	0.0174		0.0174	0.0174						250.4537
Total		**0.0252**	**0.2287**	**0.1921**	**1.3700e-003**		**0.0174**	**0.0174**		**0.0174**	**0.0174**						**250.4537**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	4.6656e+006	0.0252	0.2287	0.1921	1.3700e-003		0.0174	0.0174		0.0174	0.0174						250.4537
Total		**0.0252**	**0.2287**	**0.1921**	**1.3700e-003**		**0.0174**	**0.0174**		**0.0174**	**0.0174**						**250.4537**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	4.94496e +006				695.3221
Total					**695.3221**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	4.94496e +006				695.3221
Total					**695.3221**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2752	2.0000e-005	2.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.4800e-003
Unmitigated	1.2752	2.0000e-005	2.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.4800e-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	0.1502					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.1248					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.4000e-004	2.0000e-005	2.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.4800e-003
Total	**1.2752**	**2.0000e-005**	**2.6400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**5.4800e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1502					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.1248					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.4000e-004	2.0000e-005	2.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.4800e-003
Total	**1.2752**	**2.0000e-005**	**2.6400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**5.4800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.6200
Unmitigated				0.6200

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.269 / 0.1				0.6200
Total					**0.6200**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.269 / 0.1				0.6200
Total					**0.6200**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				24.1393
Unmitigated				24.1393

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	48				24.1393
Total					**24.1393**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	48				24.1393
Total					**24.1393**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Table AQ4-2 Air Quality Construction Support Data

Project Name: **STACK Data Center SVY05/06**

See Equipment Type TAB for type, horsepower and load factor

Project Size	**0**	**Dwelling Units**	**9.78**	**total project acres disturbed**
	0	**s.f. residential**		
	135000	**s.f. mfg**	**Adv Mfg**	
	225,000	**s.f. office/commercial**	**SVY05**	
	288,000	**s.f. other, specify:**	**SVY06**	
	140,100	**s.f. parking garage**	**316**	**spaces**
	0	**s.f. parking lot**	**0**	**spaces**
Construction Days and Hours (Monday-Friday)	**7:00**	**am to**	**5:00**	**pm**

Operations and Employees

SVY05 = 30 **Ops Yr: 2025**

SVY06 = 42 **Ops Yr: 2026**

Adv Mfg = 125 **Ops Yr: 2025**

Visitors/day: SVY05 = 7 SVY06 = 5

Site deliveries per day: SVY05 = 5 SVY06 = 4

Total trips/day: SVY05 = 42 plus AM 125 = 167 SVY06 = 51

Quantity	Phase Descriptions	HP	Load Factor	Work Period Hours/day	EQ Use Days	EQ Use Hours per day	Phase Hours	Comments
								Overall Import/Export Volumes
	Demolition 1829 Fortune	**Start Date:**	**10/1/2022**	**Total phase days:**	**65**	**Each**		**Demolition Volume**
		End Date:	**12/31/2022**			**Piece**		Square footage of buildings to be demolished
1	Concrete/Industrial Saws	81	0.73	10	10	1.5	100	(*or* total tons to be hauled)
2	Excavators	158	0.38	10	15	2.3	300	**55,000** square feet *or*
2	Rubber-Tired Dozers	247	0.4	10	15	2.3	300	
0	Tractors/Loaders/Backhoes	97	0.37	10	0	0.0	0	
1	Water Truck	172	0.42	10	55	8.5	550	
6								
	Demolition Olympus	**Start Date:**	**1/1/2023**	**Total phase days:**	**33**			**Overall Import/Export Volumes**
		End Date:	**2/15/2023**					**Demolition Volume**
1	Concrete/Industrial Saws	81	0.73	10	5	0.8	50	Square footage of buildings to be demolished
2	Excavators	158	0.38	10	10	1.5	200	(*or* total tons to be hauled)
2	Rubber-Tired Dozers	247	0.4	10	10	1.5	200	**85,000** square feet *or*
0	Tractors/Loaders/Backhoes	97	0.37	10	0	0.0	0	
1	Water Truck	172	0.42	10	25	3.8	250	
6								
	Site Preparation SVY05/AM/PG	**Start Date:**	**10/19/2022**	**Total phase days:**	**85**			
		End Date:	**2/15/2023**					
1	Graders	187	0.41	10	20	2.4	200	
1	Rubber Tired Dozers	247	0.4	10	20	2.4	200	
2	Tractors/Loaders/Backhoes	97	0.37	10	30	3.5	600	
1	Water Truck	172	0.42	10	75	8.8	750	
5								
	Grading / Excavation SVY05/AM/PG	**Start Date:**	**1/1/2023**	**Total phase days:**	**65**			
		End Date:	**4/1/2023**					**Soil Hauling Volume**
1	Excavators	158	0.38	10	20	3.1	200	Export volume = **15,000** cubic yards?
1	Graders	187	0.41	10	20	3.1	200	Import volume = **0** cubic yards?
1	Rubber Tired Dozers	247	0.4	10	20	3.1	200	
0	Scrapers	367	0.48	10	0	0.0	0	
2	Tractors/Loaders/Backhoes	97	0.37	10	20	3.1	400	
1	Water Truck	172	0.42	10	60	9.2	600	
6								
	Trenching/Foundation SVY05/AM/PG	**Start Date:**	**2/15/2023**	**Total phase days:**	**80**			
		End Date:	**6/7/2023**					
1	Tractor/Loader/Backhoe	97	0.37	10	40	5.0	400	
1	Excavators	158	0.38	10	25	3.1	250	
1	Water Truck	172	0.42	10	70	8.8	700	
3								

	Building - Exterior SVY05/AM/PG	**Start Date:**	**3/29/2023**	**Total phase days:**	**182**			**Cement Trucks? _550_ Total Round-Trips**
		End Date:	**10/27/2023**					
1	Cranes	231	0.29	10	40	2.2	400	Diesel
3	Forklifts	89	0.2	10	120	6.6	3600	Diesel
1	Generator Sets	84	0.74	10	120	6.6	1200	Temp Line Power & Generators for Welding Power
2	Tractors/Loaders/Backhoes	97	0.37	10	60	3.3	1200	
1	Welders	46	0.45	10	40	2.2	400	
8								
	Building - Interior/Architectural Coating SVY05/AM/PG	**Start Date:**	**9/1/2023**	**Total phase days:**	**174**			
		End Date:	**3/22/2024**					
2	Air Compressors	78	0.48	10	160	9.2	3200	
1	Aerial Lift	62	0.31	10	75	4.3	750	
3								
	Paving SVY05/AM/PG	**Start Date:**	**2/1/2024**	**Total phase days:**	**65**			**Asphalt? __409_ cubic yards**
		Start Date:	**5/1/2024**					
0	Cement and Mortar Mixers	9	0.56	10	0	0.0	0	
1	Pavers	130	0.42	10	25	1.4	250	
2	Paving Equipment	132	0.36	10	25	1.4	500	
1	Rollers	80	0.38	10	35	2.0	350	
0	Tractors/Loaders/Backhoes	97	0.37	10	0	0.0	0	
4								
	Generator Yards SVY05/AM/PG	**Start Date:**	**11/1/2023**	**Total phase days:**	**122**			
		Start Date:	**3/22/2024**					
1	Tractors/Loaders/Backhoes	97	0.37	10	20	1.1	200	
1	Excavators	158	0.38	10	50	2.9	500	
1	Crane	231	0.29	10	30	1.7	300	
1	Concrete Trucks/Pumps	84	0.74	10	25	1.4	250	
4	End of SVY05 Phase							
	Site Preparation SVY06	**Start Date:**	**1/29/2024**	**Total phase days:**	**40**			
		End Date:	**3/25/2024**					
1	Graders	187	0.41	10	15	1.8	150	
1	Rubber Tired Dozers	247	0.4	10	10	1.2	100	
2	Tractors/Loaders/Backhoes	97	0.37	10	15	1.8	300	
1	Water Truck	172	0.42	10	35	4.1	350	
5								
	Grading / Excavation SVY06	**Start Date:**	**2/1/2024**	**Total phase days:**	**53**			
		End Date:	**4/15/2024**					**Soil Hauling Volume**
1	Excavators	158	0.38	10	15	2.3	150	Export volume = _15,750_ cubic yards?
1	Graders	187	0.41	10	15	2.3	150	Import volume = _0_ cubic yards?
1	Rubber Tired Dozers	247	0.4	10	15	2.3	150	
0	Concrete/Industrial Saws	81	0.73	10	0	0.0	0	
1	Tractors/Loaders/Backhoes	97	0.37	10	20	3.1	200	
1	Water Truck	172	0.42	10	45	6.9	450	
5								
	Trenching/Foundation SVY06	**Start Date:**	**3/25/2024**	**Total phase days:**	**72**			
		End Date:	**6/17/2024**					
1	Tractor/Loader/Backhoe	97	0.37	10	35	4.4	350	
1	Excavators	158	0.38	10	25	3.1	250	
1	Water Truck	172	0.42	10	65	8.1	650	
3								

	Building - Exterior SVY06	**Start Date:**	**6/18/2024**	**Total phase days:**	**199**			**Cement Trucks? _625_ Total Round-Trips**
		End Date:	**2/5/2025**					
1	Cranes	231	0.29	10	40	2.2	400	Diesel
3	Forklifts	89	0.2	10	120	6.6	3600	Diesel
1	Generator Sets	84	0.74	10	45	2.5	450	Temp Line Power & Generators for Welding Power
2	Tractors/Loaders/Backhoes	97	0.37	10	60	3.3	1200	
1	Welders	46	0.45	10	40	2.2	400	
8								
	Building - Interior/Architectural Coating SVY06	**Start Date:**	**12/9/2024**	**Total phase days:**	**134**			
		End Date:	**5/14/2025**					
2	Air Compressors	78	0.48	10	100	5.7	2000	
1	Aerial Lift	62	0.31	10	55	3.2	550	
3								
	Paving SVY06	**Start Date:**	**4/1/2025**	**Total phase days:**	**44**			Quantity included above
		Start Date:	**6/1/2025**					
0	Cement and Mortar Mixers	9	0.56	10	0	0.0	0	
1	Pavers	130	0.42	10	17	1.0	170	
2	Paving Equipment	132	0.36	10	17	1.0	340	
1	Rollers	80	0.38	10	25	1.4	250	
0	Tractors/Loaders/Backhoes	97	0.37	10	0	0.0	0	
4								
	Generator Yards SVY06	**Start Date:**	**1/15/2025**	**Total phase days:**	**102**			
		Start Date:	**5/14/2025**					
1	Tractors/Loaders/Backhoes	97	0.37	10	20	1.1	200	
1	Excavators	158	0.38	10	41	2.4	410	
1	Crane	231	0.29	10	25	1.4	250	
1	Concrete Trucks/Pumps	84	0.74	10	21	1.2	210	
4	End of SVY06 Phase							

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.
2. Equipment run hours per day derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.

Appendix AQ-5

Risk Assessment Support Data

Table AQ5-1

The following HRA files have been submitted electronically for the operational and construction analyses:

- Plot files generated by AERMOD
- HARP input files
- HARP generated support files
- HARP HRA Output files
- HARP generated Project Reports

Table AQ5-2 Sensitive Receptors and Distances from Site
(all sites and coordinates from Google Earth unless otherwise noted) Image Date: Sept 2020
Stacks Data Center

			Distance from Stack Mid-point		
Receptor ID	**UTM Em**	**UTM Nm**	**meters**	**feet**	**miles**
Site (approx. mid-point)	**597756.00**	**4140069.00**	na	na	
Residences	597749.00	4140253.00	184.1	604.1	0.11
School	596855.00	4140660.00	1077.5	3535.2	0.67
University	597878.00	4139864.00	238.6	782.7	0.15
University	598213.00	4139580.00	669.3	2195.9	0.42
School	599107.00	4139576.00	1438.1	4718.3	0.89
School	599024.00	4140789.00	1458.2	4784.0	0.91
School	597492.00	4140465.00	475.9	1561.5	0.30
Med Facility	596074.00	4140961.00	1903.9	6246.4	1.18
Daycare	596703.00	4140321.00	1082.7	3552.3	0.67
Daycare	598762.00	4140108.00	1006.8	3303.0	0.63
Home Healthcare	599306.00	4139446.00	1670.5	5480.7	1.04
College	597895.00	4139511.00	575.1	1886.7	0.36
University	598215.00	4139608.00	650.5	2134.3	0.40

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.

Table AQ5-3 CalEnviroScreen 4.0 Data (as of 9/28/21)

Site: The project site lies in census tract 6085504322 and has a population of 5513 people. The site lies in an area currently classified at the 37 percentile level.
To the west of the site, on the west side of Oakland Rd. lies a region classified at the 81 percentile level. This area is approximately 2,160 ft. from the project site.
To the northeast of the site at the intersection of Trade Zone Ave and Lundy Ave lies are area classified in the 41 percentile level. This area is approximately 1,580 ft. from the project site.
Due east of the site adjacent to the east side of the 680 Fwy lies an area classified in the 33 percentile level. This area is approximately 5,500 ft. from the project site.
South of the project site on the south side of Berryessa Rd and west of the 680 Fwy lies an area classified in the 63 percentile area. This area is approximately 12,000 ft. from the project site.
South of the project site on the south side of Murphy Ave and west of the 680 Fwy lies an area classified in the 27 percentile level. This area is approximately 6,700 ft. from the project site.
Northwest of the project site in the NW corner of the intersection of the Nimitz Fwy and the SouthBay Fwy lies and area classified in the 70 percentile level. This area is approximately 11,000 ft. from the project site.
All distances mapped by Google Earth, image data date 9/4/20. *Source: ADI, 9/28/21*

ARBORIST REPORT

November 19, 2021
5559.00

PROJECT
North San Jose Data Center
Ringwood Avenue
San Jose, CA

PREPARED FOR
David J. Powers and Associates

PREPARED BY
HMH
1570 Oakland Road
San Jose, CA 95131
William Sowa
ISA Certified Arborist #WE-12270A

TABLE OF CONTENTS

INTRODUCTION AND OVERVIEW

HMH was contracted to prepare an arborist report for a new data center site along Trade Zone Boulevard and Ringwood Avenue in North San Jose. This report was done to supplement the arborist work done on site and includes the area coinciding with the alignment of electrical lines from east of the site to Montague Expressway. There are exiting office buildings to the south, west, and east of the site with Trade Zone Boulevard to the north. Our scope of services includes locating, measuring DBH, assessing, and photographing the condition for trees located within the limit of work illustrated on Exhibit A. Disposition and health recommendations are based on current site conditions. Site development/design may affect the preservation suitability.

METHODOLOGY

Our tree survey work is a deliberate and systematic methodology for cataloging trees on site:

1. Identify each tree species.
2. Note each tree's location on a site map.
3. Measure each trunk circumference at 4.5' above grade per ISA standards.
4. Evaluate the health and structure of each tree using the following numerical standard:

   5 *- A healthy, vigorous tree, reasonably free of disease, with good structure and form typical of the species.*

   4 *- A tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.*

   3 *- A tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that may that might be mitigated with care.*

   2 *- A tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.*

   1 *- A tree in severe decline, dieback of scaffold branches and or trunk, mostly epicormic growth; extensive structural defects that cannot be abated.*

   0 - Tree is dead.

SUMMARY OF FINDINGS

HMH conducted a tree inventory of 54 trees located within the limit of work outlined in Exhibit A. **thirty eight (38)** of the trees inventoried are classified as ordinance-sized trees under the City of San Jose Tree Removal permit.

An ordinance-size tree is:
Single Trunk - 38 inches or more in circumference at 4 ½ feet above ground; or
Multi-trunk - The combined measurements of each trunk circumference (at 4 ½ feet above ground) add up to 38 inches or more.

Table 1 - Tree Quantity Summary summarizes tree quantities by both species and size. Each species that was inventoried as part of this scope is included. This is a useful tool for analyzing the mixture of trees as part of the project. The size table is useful when calculating mitigation requirements in the case of tree removal as well as aiding in determining tree maturity.

Table 2 - Tree Evaluation Summary lists each tree number, botanical name, common name, DBH, circumference, ordinance trees, health rating, preservation suitability, general notes and observations and recommendations.

See Exhibit A for Existing Tree Locations
See Table 1 for Tree Quantity Summary by species and size.
See Table 2 for Tree Evaluation Summary for sizes, notes and recommendations regarding each tree.

GENERAL OBSERVATIONS AND RECOMMENDATIONS

Species: *Eucalyptus camaldulensis.*(Red Gum)
Quantity: 2
Observations / Recommendations:

These two red gum trees are at the corner of Trade Zone Boulevard and Montague Expressway. Tree 47 has been topped due to conflict with the power lines and is in poor shape. Tree 49 is a very large specimen that if work is performed around the tree should be protected in place. While eucalyptus trees are generally no longer desired as an ornamental tree the size of tree #49 would warrant a habitat value discussion if proposed to be removed. Tree 47 should be removed.

Species: *Ligustrum lucidum* (Privet Tree)
Quantity: 4
Observations / Recommendations:

The four Privet trees are large shrubs in tree shape that are likely to volunteers from adjacent tree stock. Privet trees are categorized as an invasive species due to the suckering and free seeding common for this species. These trees should be removed.

Species: *Pinus canariensis* (Canary Island Pine)
Quantity: 1
Observations / Recommendations:

There is one large Canary Island Pine in this corridor. This tree also appears to be a volunteer, but also could have been planted as part of a past project. It is a one-off tree that does not offer much ornamental value and conflicts with the power lines. It is in moderate shape and structure. If work is to be performed in this area removal is recommended.

Species: *Platanus × hispanica* (Plane Tree)
Quantity: 17
Observations / Recommendations:

The Plane trees are the second most common tree in this corridor. They range from good to moderate with many having poor structure due to topping or trimming to avoid the powerlines. The trees along the back of sidewalk are spaced far enough to allow for some canopy development but again the power lines are causing them to be trimmed back. There is also a slight lean at trees 14 and 15. Tree #16 appears to be dead or advanced state of decline. Tree 18 has a very misshaped canopy. The Plane trees planted along the back of curb at Trade Zone Boulevard are in moderate shape. There are numerous trees along this portion of the corridor and many of the trees are crowded with the adjacent redwood trees causing canopy conflicts and poor structure. These trees are also being topped due the power lines. This condition will continue as long as the powerlines persist.

Species: *Schinus molle* (California Pepper Tree)
Quantity: 1
Observations / Recommendations:

There is one large California Pepper tree in this corridor. This tree also appears to be a volunteer as pepper trees are self-seeding and considered an invasive species in many regions. It is a relatively large specimen, so it seems to be growing for some time. It has a moderate canopy structure. Like many of the trees in this part of the corridor, it is a one-off tree that does not offer much ornamental value. If significant disturbance or work is to be performed in this area removal is recommended.

Species: *Sequoia sempervirens* (Coast Redwood)
Quantity: 28
Observations / Recommendations:

The Coast Redwood trees are the most common species in this corridor. They range from good to moderate with many having moderate to poor structure due to topping or trimming to avoid the powerlines. Trees 1-13 are at the top of a slope adjacent to the building and are in good to moderate shape. There is construction activity with no tree protection so there is the potential of limb damage and root compaction if this continues near the trees. Like most redwood trees in the region, they are showing signs of stress due to drought conditions. Redwood trees are considered a higher water use species. Additional irrigation could be supplied through soaker hose around the root zone. The trees along the parking lot at east of the site have similar issues of conflicting with the power lines and overcrowded Plane trees in this area. Much of the lower branches have been limbed up to remedy for these conflicts and have created an unnatural look and feel to the trees. These trees are also showing signs of drought stress.

Species: *Washingtonia robusta* (Mexican Fan Palm)
Quantity: 1
Observations / Recommendations:

This fan palm is a volunteer growing directly under the canopy of the Plan tree. Removal is recommended.

RECOMMENDATIONS FOR TREE PROTECTION DURING CONSTRUCTION

Site preparation: All existing trees shall be fenced off 10' beyond the outside the drip line (foliar spread) of the tree. Alternatively, where this is not feasible, fence to the drip line of the tree. Where fencing is not possible, the trunk shall be protected straw waddle and orange snow fencing. The fence should be a minimum of six feet high, made of pig wire with steel stakes or any material superior in quality, such as cyclone fencing. Tree protection zone sign shall be affixed to fencing at appropriate intervals as determined by the arborist on site. If the fence is within the drip line of the trees, the foliar fringe shall be raised to offset the chance of limb breakage from construction equipment encroaching within the drip line. All contractors, subcontractors and other personnel shall be warned that encroachment within the fenced area is forbidden without the consent of the certified arborist on the job. This includes, but is not limited to, storage of lumber and other materials, disposal of paints, solvents or other noxious materials, parked cars, grading equipment or other heavy equipment. Penalties, based on the cost of remedial repairs and the evaluation guide published by the international society of arboriculture, shall be assessed for damages to the trees. See tree preservation detail for additional information, including tree protection zone sign.

Grading/excavating: All grading plans that specify grading within the drip line of any tree, or within the distance from the trunk as outlined in the site preparation section above when said distance is outside the drip line, shall first be reviewed by a certified arborist. Provisions for aeration, drainage, pruning, tunneling beneath roots, root pruning or other necessary actions to protect the trees shall be outlined by an arborist. If trenching is necessary within the area as described above, said trenching shall be undertaken by hand labor and dug directly beneath the trunk of the tree. All roots 2 inches or larger shall be tunneled under and other roots shall be cut smoothly to the trunk side of the trench. The trunk side should be draped immediately with two layers of untreated burlap to a depth of 3 feet from the surface. The burlap shall be soaked nightly and left in place until the trench is back filled to the original level. An arborist shall examine the trench prior to back filling to ascertain the number and size of roots cut, so as to suggest the necessary remedial repairs.

Remedial repairs: An arborist shall have the responsibility of observing all ongoing activities that may affect the trees and prescribing necessary remedial work to ensure the health and stability of the trees. This includes, but is not limited to, all arborist activities brought out in the previous sections. In addition, pruning, as outlined in the "pruning standards" of the western chapter of the International Society of Arboriculture, shall be prescribed as necessary. Fertilizing, aeration, irrigation, pest control and other activities shall be prescribed according to the tree needs, local site requirements, and state agricultural pest control laws. All specifications shall be in writing. For pest control operations, consult the local county agricultural commissioner's office for individuals licensed as pest control advisors or pest control operators.

Final inspection: Upon completion of the project, the arborist shall review all work undertaken that may impact the existing trees. Special attention shall be given to cuts and fills, compacting, drainage, pruning and future remedial work. An arborist should submit a final report in writing outlining the ongoing remedial care following the final inspection.

MAINTENANCE RECOMMENDATIONS FOR TREES TO REMAIN

Regular maintenance, designed to promote plant health and vigor, ensures longevity of existing trees. Regular inspections and the necessary follow-up care of mulching, fertilizing, and pruning, can detect problems and correct them before they become damaging or fatal.

Tree Inspection: Regular inspections of mature trees at least once a year can prevent or reduce the severity of future disease, insect, and environmental problems. During tree inspection, four characteristics of tree vigor should be examined: new leaves or buds, leaf size, twig growth, and absence of crown dieback (gradual death of the upper part of the tree). A reduction in the extension of shoots (new growing parts), such as buds or new leaves, is a fairly reliable cue that the tree's health has recently changed. Growth of the shoots over the past three years may be compared to determine whether there is a reduction in the tree's typical growth pattern. Further signs of poor tree health are trunk decay, crown dieback, or both. These symptoms often indicate problems that began several years before. Loose bark or deformed growths, such as trunk conks (mushrooms), are common signs of stem decay. Any abnormalities found during these inspections, including insect activity and spotted, deformed, discolored, or dead leaves and twigs, should be noted and observed closely.

Mulching: Mulch, or decomposed organic material, placed over the root zone of a tree reduces environmental stress by providing a root environment that is cooler and contains more moisture than the surrounding soil. Mulch can also prevent mechanical damage by keeping machines such as lawn mowers and string trimmers away from the tree's base. Furthermore, mulch reduces competition from surrounding weeds and turf. To be most effective, mulch should be placed 2 to 4 inches deep and cover the entire root system, which may be as far as 2 or 3 times the diameter of the branch spread of the tree. If the area and activities happening around the tree do not permit the entire area to be mulched, it is recommended that as much of the area under the drip line of the tree is mulched as possible. When placing mulch, care should be taken not to cover the actual trunk of the tree. This mulch-free area, 1 to 2 inches wide at the base, is sufficient to avoid moist bark conditions and prevent trunk decay. An organic mulch layer 2 to 4 inches deep of loosely packed shredded leaves, pine straw, peat moss, or composted wood chips is adequate. Plastic should not be used as it interferes with the exchange of gases between soil and air, which inhibits root growth. Thicker mulch layers, 5 to 6 inches deep or greater, may also inhibit gas exchange.

Fertilization: Trees require certain nutrients (essential elements) to function and grow. Urban landscape trees may be growing in soils that do not contain sufficient available nutrients for satisfactory growth and development. In certain situations, it may be necessary to fertilize to improve plant vigor. Fertilizing a tree can improve growth; however, if fertilizer is not applied wisely, it may not benefit the tree at all and may even adversely affect the tree. Mature trees making satisfactory growth may not require fertilization. When considering supplemental fertilizer, it is important to consider nutrients deficiencies and how and when to amend the deficiencies. Soil conditions, especially pH and organic matter content, vary greatly, making the proper selection and use of fertilizer a somewhat complex process. To that end, it is recommended that the soil be tested for nutrient content. A soil testing laboratory and can give advice on application rates, timing, and the best blend of fertilizer for each tree and other landscape plants on site. Mature trees have expansive root systems that extend from 2 to 3 times the size of the leaf canopy. A major portion of actively growing roots is located outside the tree's drip line. Understanding the actual size and extent of a tree's root system before applying fertilizer is paramount to determine quantity, type and rate at which to best apply fertilizer. Always follow manufacturer recommendations for use and application.

Pruning: Pruning is often desirable or necessary to remove dead, diseased, or insect-infested branches and to improve tree structure, enhance vigor, or maintain safety. Because each cut has the potential to change the growth of (or cause damage to) a tree, no branch should be removed without reason. Removing foliage from a tree has two distinct effects on growth: (1) it reduces photosynthesis and, (2) it may reduce overall growth. Pruning should always be performed sparingly. Caution must be taken not to over-prune as a tree may not be able to gather and process enough sunlight to survive. Pruning mature trees may require special equipment, training, and experience. Arborists are equipped to provide a variety of services to assist in performing the job safely and reducing risk of personal injury and property damage *(See also ANSI A300 Part 1 Pruning Standards- https://www.tcia.org).*

Removal: There are circumstances when removal is necessary. An arborist can help decide whether or not a tree should be removed. Professionally trained arborists have the skills and equipment to safely and efficiently remove trees. Removal is recommended when a tree: (1) is dead, dying, or considered irreparably hazardous; (2) is causing an obstruction or is crowding and causing harm to other trees and the situation is impossible to correct through pruning; (3) is to be replaced by a more suitable specimen, and; (4) should be removed to allow for construction. Pruning or removing trees, especially large trees, can be dangerous work. It should be performed only by those trained and equipped to work safely in trees.

TERMS AND CONDITIONS

The following terms and conditions apply to all oral and written reports and correspondence pertaining to consultations, inspections and activities of HMH.

1. The scope of any report or other correspondence is limited to the trees and conditions specifically mentioned in those reports and correspondence. HMH assumes no liability for the failure of trees or parts of trees, either inspected or otherwise. HMH assumes no responsibility to report on the condition of any tree or landscape feature not specifically requested by the named client.
2. No tree described in this report was climbed, unless otherwise stated. HMH does not take responsibility for any defects, which could have only been discovered by climbing. A full root collar inspection, consisting of excavating the soil around the tree to uncover the root collar and major buttress roots was not performed unless otherwise stated. HMH does not take responsibility for any root defects, which could only have been discovered by such an inspection.
3. HMH shall not be required to provide further documentation, give testimony, be deposed, or attend court by reason of this appraisal or report unless subsequent contractual arrangements are made, including payment of additional fees for such services as described by HMH or in the schedule of fees or contract.
4. HMH guarantees no warrantee, either expressed or implied, as to the suitability of the information contained in the reports for any reason. It is the responsibility of the client to determine applicability to his/her case.
5. Any report and the values, observations and recommendations expressed therein represent the professional opinion of HMH, and the fee for services is in no manner contingent upon the reporting of a specified value nor upon any particular finding to be reported.
6. Any photographs, diagrams, graphs, sketches or other graphic material included in any report, being intended solely as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys, unless otherwise noted in the report. Any reproductions of graphic material or the work produced by other persons, is intended solely for clarification and ease of reference. Inclusion of said information does not constitute a representation by HMH as to the sufficiency or accuracy of that information.
7. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Existing Tree Map
Exhibit A

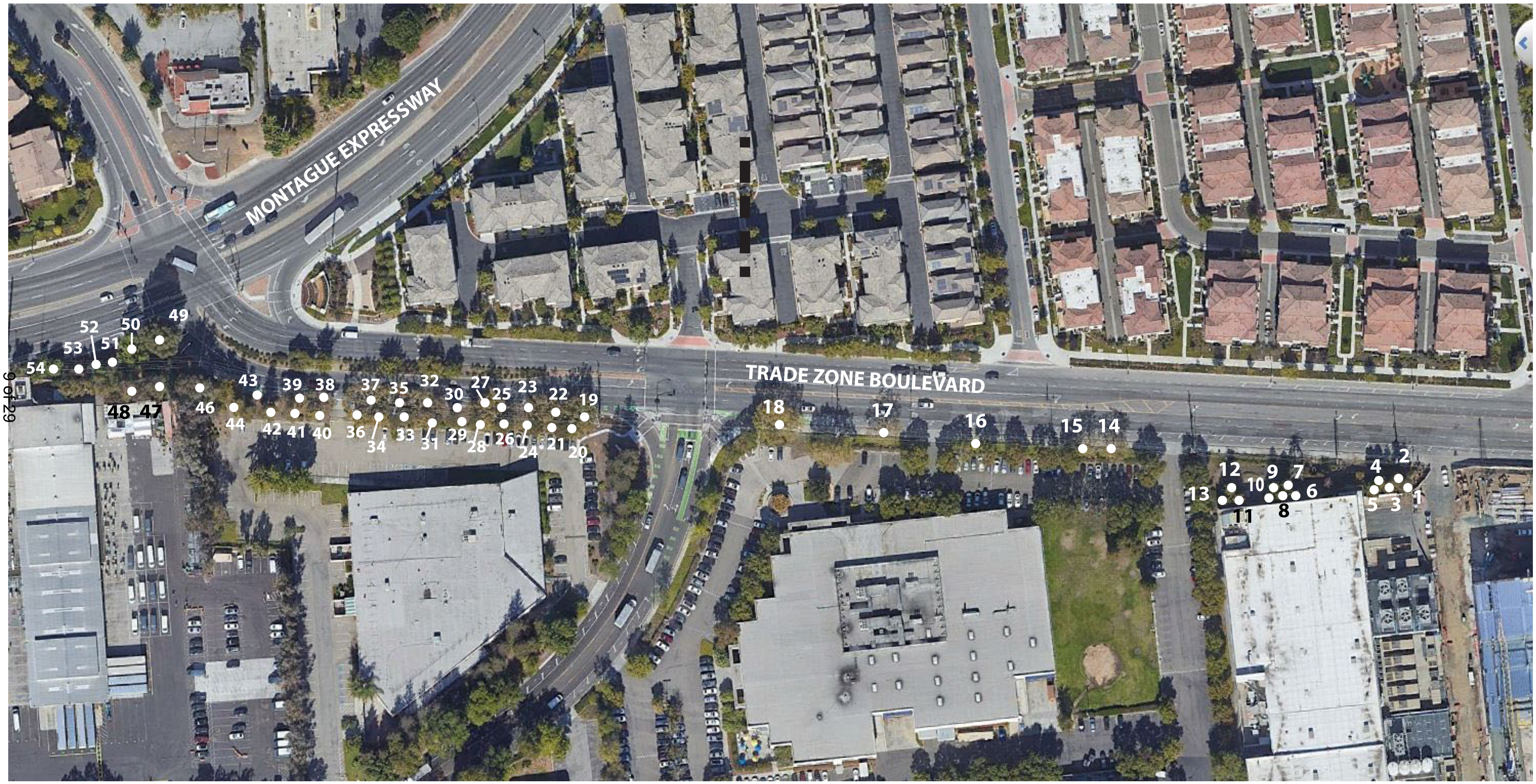


TABLE 1 - TREE QUANTITY SUMMARY

Tree Quantity by Species		
Species	**Quantity**	**% of Site**
Eucalyptus camaldulensis	2	4%
Ligustrum lucidum	4	7%
Pinus canariensis	1	2%
Platanus × hispanica	17	31%
Schinus molle	1	2%
Sequoia sempervirens	28	52%
Washingtonia robusta	1	2%
Total Trees	**54**	**100%**

Tree Quantity by Size	
Circumferance	**Quantity**
<19"	2
19"-38"	14
38" +	38
Total	**54**

TABLE 2 - TREE EVALUATION SUMMARY

Prepared By: William Sowa ISA Certified Arborist WE-12270A

DBH MEASUREMENT HEIGHT: 54"

Date of Evaluation: 7/26/2021

Suitability for Preservation is based on the following		
Good - Trees with good health and structural stability that have the potential for longevity at the site.		
Moderate - Trees in somewhat declining health and/or exhibits structural defects that cannot be abated with treatment. Trees will require more intense management and will have a shorter lifespan than those in the 'Good' category.		
Poor - Trees in poor health or with significant structural defects that cannot be mitigated. Tree is expected to decline, regardless of treatment.		
Health Rating		
5	A healthy, vigorous tree, reasonably free of disease, with good structure and form typical of the species.	
4	A tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.	
3	A tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that may that might be mitigated with care.	
2	A tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.	
1	A tree in severe decline, dieback of scaffold branches and or trunk, mostly epicormic growth; extensive structural defects that cannot be abated.	
0	Tree is dead.	
Abbreviations and Definitions		
CD	Codominant branches	Forked branches nearly the same size in diameter, arising from a common junction an lacking a normal branch union.
CDB	Dieback in Crown	Condition where branches in the tree crown die from the tips toward the center.
CR	Crowded	Tree is bounded closely by one or more of the following: structure, tree, Etc.
D	Decline	Tree shows obvious signs of decline, which may be indicative of the presence of multiple biotic and abiotic disorders.
DBH	Diameter at Breast Height	Measurement of tree diameter in inches. Measurement height varies by City and is noted above.
EG	Epicormic Growth	Watersprouting on trunk and main leaders. Typically indicative of tree stress.
EH	Exposed Heartwood	Exposure of the tree's heartwood is typically seen as an open wound that leaves a tree more susceptible to pathogens, disease or infection.
H	Hazardous	A tree that in it's current condition, presents a hazard.
HD	Headed	Poor pruning practice of cutting back branches. Often practiced under utility lines to limit tree height.
IB	Included Bark	Structural defect where bark is included between the branch attachment so the wood can't join. Such defect can have a higher probability of failure.
LC	Low crotch	Multiple central leaders originating below the DBH measurement site.
LN	Leaning Tree	Tree leaning, see notes for severity.
ML	Multiple Leaders	More than one upright primary stem
PT	Phototropism	Tree exhibits phototropic growth habits. Reduced trunk taper, misshapen trunk and canopy growth are examples of this growth habit.
S	Suckers	Shoot arising from the roots.
SD	Structural Defects	Naturally or secondary conditions including cavities, poor branch attachments, cracks, or decayed wood in any part of the tree that may contribute to structural failure.
SE	Severe	Indicates the severity of the following term.
SL	Slight	Indicates the mildness of the following term.
SR	Surface Roots	Roots visible at finished grade.
ST	Stress	Environmental factor inhibiting regular tree growth. Includes drought, salty soils, nitrogen and other nutrient deficiencies in the soil.
WU	Weak Union	Weak union or fork in tree branching structure.
	Ordinance Tree	Ordinance-Size Trees.An ordinance-size tree is: Single Trunk - 38 inches or more in circum-ference at 4 ½ feet above ground; or Multi-trunk - The combined measurements of each trunk circumference (at 4 ½ feet above ground) add up to 38 inches or more.

TREE #	BOTANICAL NAME	COMMON NAME	NATIVE / NON-NATVIE	MITIGATION RATIO	DBH (INCHES)	CIRCUMFERENCE (INCHES)	ORDINANCE TREE	HEALTH	PRESERVATION SUITABILITY	NOTES
1	*Sequoia sempervirens*	Coast Redwood	Native	5	14	44	yes	4	Good	ST
2	*Sequoia sempervirens*	Coast Redwood	Native	5	14	44	yes	4	Good	ST
3	*Sequoia sempervirens*	Coast Redwood	Native	5	12	38	no	4	Good	ST
4	*Sequoia sempervirens*	Coast Redwood	Native	5	11	35	no	4	Good	ST
5	*Sequoia sempervirens*	Coast Redwood	Native	5	17	53	yes	4	Good	ST
6	*Sequoia sempervirens*	Coast Redwood	Native	3	9	28	no	4	Good	ST
7	*Sequoia sempervirens*	Coast Redwood	Native	3	12	25	no	4	Good	ST
8	*Sequoia sempervirens*	Coast Redwood	Native	5	11	60	yes	4	Good	ST
9	*Sequoia sempervirens*	Coast Redwood	Native	5	13	35	no	4	Good	ST
10	*Sequoia sempervirens*	Coast Redwood	Native	3	9	28	no	4	Good	ST
11	*Sequoia sempervirens*	Coast Redwood	Native	5	12	38	no	4	Good	ST
12	*Sequoia sempervirens*	Coast Redwood	Native	5	14	44	yes	4	Good	ST
13	*Sequoia sempervirens*	Coast Redwood	Native	3	10	31	no	4	Good	ST
14	*Platanus × hispanica*	Plane Tree	Non Native	4	15	47	yes	4	Moderate	LN
15	*Platanus × hispanica*	Plane Tree	Non Native	4	15	46	yes	4	Moderate	LN
16	*Platanus × hispanica*	Plane Tree	Non Native	2	8	24	no	1	Poor	Dead
17	*Platanus × hispanica*	Plane Tree	Non Native	4	15	46	yes	3	Moderate	TOPPED, SD
18	*Platanus × hispanica*	Plane Tree	Non Native	4	23	72	yes	3	Moderate	TOPPED, SD
19	*Platanus × hispanica*	Plane Tree	Non Native	4	19	60	yes	4	Moderate	TOPPED, SD
20	*Sequoia sempervirens*	Coast Redwood	Native	5	18	57	yes	4	Moderate	ST,CR
21	*Sequoia sempervirens*	Coast Redwood	Native	5	16	50	yes	4	Moderate	ST,CR
22	*Platanus × hispanica*	Plane Tree	Non Native	4	23	72	yes	3	Moderate	CR
23	*Washingtonia robusta*	Mexican Fan Palm	Non Native	4	15	47	yes	3	Moderate	Volunteer, Crowded
24	*Sequoia sempervirens*	Coast Redwood	Native	5	18	57	yes	4	Moderate	ST,CR
25	*Platanus × hispanica*	Plane Tree	Non Native	2	9	28	no	4	Moderate	CR

TREE #	BOTANICAL NAME	COMMON NAME	NATIVE / NON-NATVIE	MITIGATION RATIO	DBH (INCHES)	CIRCUMFERENCE (INCHES)	ORDINANCE TREE	HEALTH	PRESERVATION SUITABILITY	NOTES
26	*Sequoia sempervirens*	Coast Redwood	Native	5	18	57	yes	4	Moderate	ST,CR
27	*Platanus × hispanica*	Plane Tree	Non Native	4	16	50	yes	4	Moderate	CR
28	*Sequoia sempervirens*	Coast Redwood	Native	5	16	50	yes	4	Moderate	ST,CR
29	*Sequoia sempervirens*	Coast Redwood	Native	5	15	47	yes	4	Moderate	ST,CR
30	*Platanus × hispanica*	Plane Tree	Non Native	4	13	41	yes	4	Moderate	CR
31	*Sequoia sempervirens*	Coast Redwood	Native	5	14	44	yes	4	Moderate	ST,CR
32	*Platanus × hispanica*	Plane Tree	Non Native	4	16	50	yes	4	Moderate	CR
33	*Sequoia sempervirens*	Coast Redwood	Native	5	12	38	no	4	Moderate	ST,CR
34	*Sequoia sempervirens*	Coast Redwood	Native	5	15	47	yes	4	Moderate	ST,CR
35	*Platanus × hispanica*	Plane Tree	Non Native	4	17	53	yes	4	Moderate	CR
36	*Sequoia sempervirens*	Coast Redwood	Native	3	9	28	no	4	Moderate	ST,CR
37	*Platanus × hispanica*	Plane Tree	Non Native	4	19	60	yes	4	Moderate	CR
38	*Platanus × hispanica*	Plane Tree	Non Native	4	16	50	yes	4	Moderate	CR
39	*Platanus × hispanica*	Plane Tree	Non Native	4	14	44	yes	4	Moderate	CR
40	*Sequoia sempervirens*	Coast Redwood	Native	5	15	47	yes	4	Moderate	ST,CR
41	*Sequoia sempervirens*	Coast Redwood	Native	5	17	53	yes	4	Moderate	ST,CR
42	*Sequoia sempervirens*	Coast Redwood	Native	5	14	44	yes	4	Moderate	ST,CR
43	*Platanus × hispanica*	Plane Tree	Non Native	1	5	16	no	4	Moderate	CR
44	*Sequoia sempervirens*	Coast Redwood	Native	5	17	53	yes	4	Moderate	ST,CR
45	*Platanus × hispanica*	Plane Tree	Non Native	4	17	53	yes	4	Moderate	CR
46	*Sequoia sempervirens*	Coast Redwood	Native	5	19	60	yes	4	Moderate	ST,CR
47	*Eucalyptus camaldulensis*	Red Gum	Non Native	4	26	82	yes	3	Moderate	TOPPED, SD
48	*Pinus canariensis*	Canary Island Pine	Non Native	4	17	53	yes	3	Moderate	
49	*Eucalyptus camaldulensis*	Red Gum	Non Native	4	82	257	yes	4	Moderate	
50	*Schinus molle*	California Pepper	Native	5	32	100	yes	4	Moderate	SD

TREE #	BOTANICAL NAME	COMMON NAME	NATIVE / NON-NATVIE	MITIGATION RATIO	DBH (INCHES)	CIRCUMFERENCE (INCHES)	ORDINANCE TREE	HEALTH	PRESERVATION SUITABILITY	NOTES
51	*Ligustrum lucidum*	Privet Tree	Non Native	4	18	57	yes	2	Moderate	SD
52	*Ligustrum lucidum*	Privet Tree	Non Native	1	2	6	no	2	Moderate	SD
53	*Ligustrum lucidum*	Privet Tree	Non Native	2	8	25	no	3	Moderate	SD
54	*Ligustrum lucidum*	Privet Tree	Non Native	2	9	28	no	3	Moderate	SD
							38			*ORDINANCE TREE TOTAL*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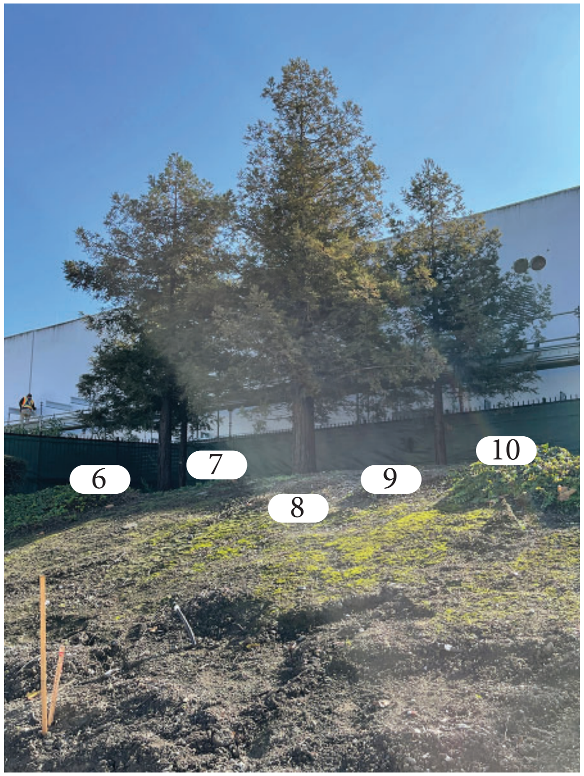
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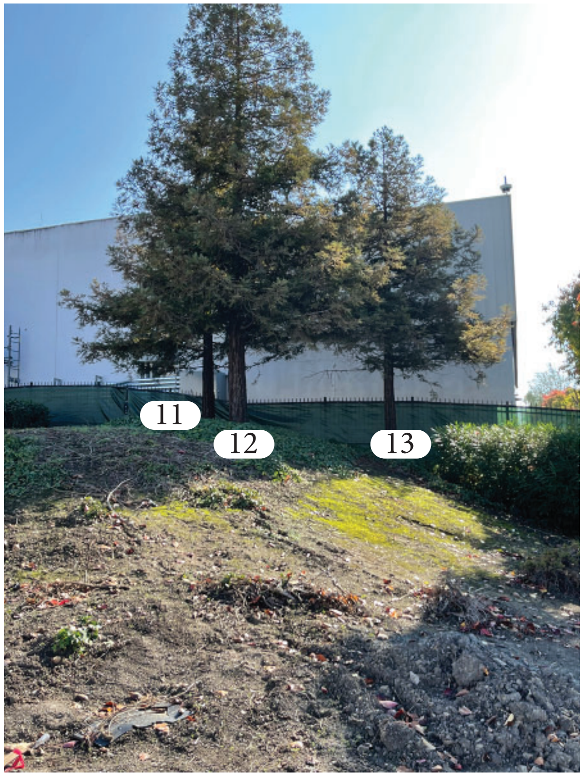
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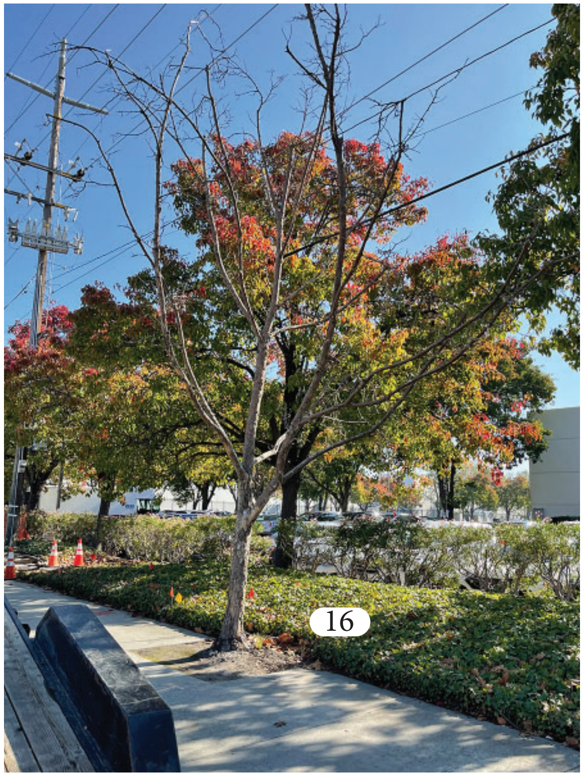

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SPEED
LIMIT
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Ringwood
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SHARE THE
ROAD
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