

Appendix D

Air Quality Modeling

Appendix D1 - Criteria Pollutant Modeling Results


Road Construction Emissions Model

Version 9.0.0

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.



Input Type

Project Name		
Construction Start Year	2022	Enter a Year between 2014 and 2040 (inclusive)
Project Type	3	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	5.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 <small>(for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)</small>	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the lone formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.07	miles
Total Project Area	0.03	acres
Maximum Area Disturbed/Day	0.03	acres
Water Trucks Used?	2	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd ³) (assume 20 if unknown)	Import Volume (yd ³ /day)	Export Volume (yd ³ /day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	0.00		
	Paving	0.00		
Asphalt	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	0.00		
	Paving	0.00		

Mitigation Options

On-road Fleet Emissions Mitigation	2010 and Newer On-road Vehicles Fleet	<small>Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer</small>
Off-road Equipment Emissions Mitigation	20% NOx and 45% Exhaust PM reduction	<small>Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation).</small> <small>Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard</small>

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

LRDP Construction Emissions Modeling Results Summary - Combined

2022-2039			Max Daily Emissions							Annual GHG Emissions				
Unmitigated			Total				Exhaust		Fugitive Dust					
Year	Project Components	Model	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
			ROG	NOx	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	CO2	CH4	N2O	CO2e
2022	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2023	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2024	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2025	Buildings + Roadways + trails + bridges	CalEEMod + RCEM + trails	45.33	238.08	49.01	27.38	9.64	8.80	39.37	18.58	2,056.44	0.51	0.02	2,073.74
2026	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2027	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2028	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2029	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2030	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2031	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2032	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2033	Buildings + Roadways + trails + bridges	CalEEMod + RCEM + trails	45.33	238.08	49.01	27.38	9.64	8.80	39.37	18.58	2,056.44	0.51	0.02	2,073.74
2034	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2035	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2036	Buildings + Roadways + trails + bridges	CalEEMod + RCEM + trails	45.33	238.08	49.01	27.38	9.64	8.80	39.37	18.58	2,056.44	0.51	0.02	2,073.74
2037	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2038	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
2039	Buildings + Roadways + trails	CalEEMod + RCEM + trails	37.11	167.79	46.38	25.43	7.60	6.98	38.77	18.45	1,459.12	0.34	0.01	1,469.68
MBARD Threshold			137	137	82	55					MT-CO2e Total 28,266			
Exceed Threshold?			No	Yes	No	No					Average Annual 1,570			
											30-year Amortized 942			

2022-2039			Max Daily Emissions							Annual GHG Emissions				
Mitigated (CalEEMod mitigation results)			Total				Exhaust		Fugitive Dust					
Year	Max Construction Phase	Model	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
			ROG	NOx	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	CO2	CH4	N2O	CO2e
2022	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2023	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2024	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2025	Buildings + Roadways + trails + bridges	CalEEMod + RCEM + trails	43.41	210.04	34.43	19.33	8.57	8.07	25.86	11.26	2,056.44	0.51	0.02	2,073.74
2026	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2027	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2028	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2029	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2030	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2031	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2032	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2033	Buildings + Roadways + trails + bridges	CalEEMod + RCEM + trails	43.41	210.04	34.43	19.33	8.57	8.07	25.86	11.26	2,056.44	0.51	0.02	2,073.74
2034	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2035	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2036	Buildings + Roadways + trails + bridges	CalEEMod + RCEM + trails	43.41	210.04	34.43	19.33	8.57	8.07	25.86	11.26	2,056.44	0.51	0.02	2,073.74
2037	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2038	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
2039	Buildings + Roadways + trails	CalEEMod + RCEM + trails	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13	1,459.12	0.34	0.01	1,469.68
MBARD Threshold			137	137	82	55					MT-CO2e Total 28,266			
Maximum Day without Bridge Construction			35.20	139.75	31.79	17.38					Average Annual 1,570			
Exceed Threshold?			No	Yes	No	No					30-year Amortized 942			

Quantified Construction Mitigation Measures

- 80% of equipment are Tier 3 (in table above)
- Renewable Diesel used in all construction equipment (calculated below)
- Non-concurrent bridgework (calculated below)

Final Mitigation Calculations								
	Total				Exhaust		Fugitive Dust	
	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day
	ROG	NOx	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Construction emissions w/o bridgework (w/80% Tier 3)	35.20	139.75	31.79	17.38	6.53	6.25	25.26	11.13
Additional % reduction in emissions with Renewable Diesel	5%	10%	n/a	n/a	30%	30%	0%	0%
Construction emissions w/o bridgework + Renewable Diesel	33.44	125.77	29.83	15.51	4.57	4.37	25.26	11.13
Percent reduction from unmitigated	-26%	-47%	-39%	-43%	-53%	-50%	-36%	-40%

**LRDP Roadways & Bridges Construction Emissions Modeling Results Summary for One Year of Construction
(Results from the Roadway Construction Emissions Model [RCEM])**

Unmitigated			Max Daily Emissions								Annual GHG Emissions			
			Total				Exhaust		Fugitive Dust					
Year	Max Construction Phase	Model	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
			ROG	NOx	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	CO2	CH4	N2O	CO2e
1	Roadways (2 miles/year)	RCEM	4.47	46.49	7.99	3.03	1.99	1.78	6.00	1.25	371.86	0.10	0.01	376.18
1	Bridge (1 bridge from 2022-2031, 2 bridges from 2032-2039)	RCEM	8.21	70.29	2.64	1.94	2.04	1.82	0.60	0.12	597.32	0.17	0.01	604.05

MBARD Threshold 137 137 82 55
 Exceed Threshold? No No No No

Mitigated			Max Daily Emissions								Annual GHG Emissions			
			Total				Exhaust		Fugitive Dust					
Year	Max Construction Phase	Model	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
			ROG	NOx	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	CO2	CH4	N2O	CO2e
1	Roadways (2 miles/year)	RCEM	4.47	46.49	7.99	3.03	1.99	1.78	6.00	1.25	371.86	0.10	0.01	376.18
1	Bridge (1 bridge from 2022-2031, 2 bridges from 2032-2039)	RCEM	8.21	70.29	2.64	1.94	2.04	1.82	0.60	0.12	597.32	0.17	0.01	604.05

MBARD Threshold 137 137 82 55
 Exceed Threshold? No No No No

LRDP Trails Construction Emissions Modeling Results Summary for One Year of Construction

Unmitigated			Max Daily Emissions								Annual GHG Emissions			
			Total				Exhaust		Fugitive Dust					
Year	Max Construction Phase	Model	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
			ROG	NOx	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	CO2	CH4	N2O	CO2e
1	Building Construction	CalEEMod	0.83	8.49	6.47	3.70	0.41	0.38	6.06	3.32	4.87	0.00	0.00	4.91
		MBARD Threshold	137	137	82	55								
		Exceed Threshold?	No	No	No	No								
											Total			4.91

Paste CalEEMod outputs below

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2022	0.8283	8.4885	5.1365	0.0101	6.0632	0.4113	6.4744	3.3211	0.3784	3.6995	0.0000	977.4090	977.4090	0.3047	0.0000	985.0275
Year	tons/yr										MT/yr					
2022	4.56E-03	0.0467	0.0282	6.00E-05	0.0333	2.26E-03	0.0356	0.0183	2.08E-03	0.0204	0.0000	4.8676	4.8676	1.52E-03	0.0000	4.9056

Mitigated			Max Daily Emissions								Annual GHG Emissions			
			Total				Exhaust		Fugitive Dust					
Year	Max Construction Phase	Model	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
			ROG	NOx	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	CO2	CH4	N2O	CO2e
1	Building Construction	CalEEMod	0.26	4.89	6.30	3.56	0.24	0.24	6.06	3.32	4.87	0.00	0.00	4.91
		MBARD Threshold	137	137	82	55								
		Exceed Threshold?	No	No	No	No								
											Total			4.91

Due to the limited number of equipment used for trail construction, assume all equipment would be Tier 3 under mitigation.

Operational Emissions Modeling Results Summary at Buildout

Unmitigated		Max Daily Emissions								Annual GHG Emissions			
		Total				Exhaust		Fugitive Dust					
		lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
Source	Model	ROG	NOX	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	CO2	CH4	N2O	CO2e
Area	CalEEMod	121.9	0.2	0.1	0.1	0.12	0.12	0.00	0.00	4.3	0.00	0.00	4.43
Electricity	CalEEMod	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	1,139	0.07	0.01	1,145
Natural Gas	CalEEMod	2.6	23.3	1.8	1.8	1.78	1.78	0.00	0.00	4,663	0.09	0.09	4,690
Laboratories	Permit Data/HRA	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gasoline Storage Tank	Permit Data/HRA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mobile - LRDP	CalEEMod	26.6	55.3	105.8	28.5	0.43	0.41	105.32	28.10	11,464	0.43	0.00	11,475
Waste	CalEEMod	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	1,000	59.11	0.00	2,478
Water/wastewater processes	CalEEMod	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	285	17.39	0.41	843
Total		152	79	108	30	2.33	2.31	105.32	28.10	18,556	77.09	0.51	20,636
MBARD Threshold		137	137	82	55								9,161
Exceed Threshold?		Yes	No	Yes	No								8,318
Total Stationary Source Emissions		3.6	23.3	1.8	1.8	1.8	1.8	0.0	0.0				2,160

Mitigated		Max Daily Emissions								Annual GHG Emissions			
		Total				Exhaust		Fugitive Dust					
		lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	MT/Year	MT/Year	MT/Year	MT/Year
Source	Model	ROG	NOX	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	CO2	CH4	N2O	CO2e
Area	CalEEMod	101.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Electricity	CalEEMod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1139.24	0.07	0.01	1,145
Natural Gas	CalEEMod	2.6	23.3	1.8	1.8	1.78	1.78	0.00	0.00	4662.71	0.09	0.09	4,690
Laboratories	Permit Data/HRA	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gasoline Storage Tank	Permit Data/HRA	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mobile - LRDP*	CalEEMod	22.8	47.4	95.9	25.8	0.4	0.3	95.6	25.5	9818.03	0.37	0.00	9,827
Waste	CalEEMod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.11	59.11	0.00	2,478
Water/wastewater processes	CalEEMod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	169.20	17.39	0.41	727
Total		128	71	98	28	2.16	2.13	95.56	25.50	16789.28	77.02	0.51	18,867
MBARD Threshold		137	137	82	55								9,040
Exceed Threshold?		No	No	Yes	No								8,314
Total Stationary Source Emissions		3.6	23.3	1.8	1.8	1.8	1.8	0.0	0.0				2,160

*Includes 100% electric campus fleet

	lbs/day	lbs/day	lbs/day	lbs/day
	ROG	NOX	PM10	PM2.5
Reduction from unmitigated	24.32	8.19	9.95	2.78

Percent of LRDP Mobile emissions from fleet
Total LRDP mobile emissions

6%
11,475

GHG Forecasts without additional reductions or carbon offsets

Emissions Source	1990 Reference Emissions	Existing 2018 (Baseline LRDP EIR Emissions)	Existing + LRDP (2025) (Interpolated)	Existing + LRDP (2030) (Interpolated)	Existing + LRDP -2040
Scopes 1 & 2 ²					
Stationary Sources (existing campus)	16,989	28,917	28,917	28,917	28,917
Purchased Electricity ³ (existing campus)	4,136	1,595	2,068	1,654	517
Mobile Fleet (existing campus)	1,701	2,032	1,785	1,609	1,257
Stationary Sources (LRDP growth)	0	0	1,494	2,561	4,695
Purchased Electricity ³ (LRDP growth)	0	0	364	625	1,145
Mobile Fleet (LRDP growth)	0	0	205	351	644
Total Scope 1 and 2 Emissions	22,826	32,544	34,833	35,717	37,175
Scope 3 (excluding air emissions)					
Non-Fleet Mobile Sources from Existing Campus ⁴	26,830	22,780	19,616	17,355	12,835
Non-Fleet Mobile Sources from LRDP Growth ⁵	0	0	3,446	5,908	10,832
LRDP Construction ⁶	0	0	942	942	942
Changes to on-campus vegetation from existing ⁷	0	0	687	1,178	2,160
Total Scope 3 Emissions	26,830	22,780	24,692	25,384	26,769
Totals					
Total Emissions from Existing Campus operations	49,656	55,324	52,386	49,536	43,526
Total Emissions from New Development under LRDP	0	0	7,139	11,565	20,418
Total Emissions without Additional Reductions	49,656	55,324	59,525	61,101	63,944
Process and Fugitive Emissions (existing campus)	N/A	395	395	395	395
Process and Fugitive Emissions (LRDP Growth)	N/A	0	39	67	124
Water/Wastewater (LRDP Growth)	N/A	0	268	460	843
Solid Waste (LRDP Growth)	N/A	0	788	1,351	2,478
Electricity transmission and distribution losses	N/A	0	0	0	0.001

1990 Source

2018 Source

2025/2030 Source

2040 Source

CES 2017

[Second Nature Annual Report](#)

Interpolated

no change from 2018 scaled down by electricity efs. SB 100 state goal of 50 percent of electricity to be powered by renewable resources by 2025, 60 percent by 2030, and 100 percent zero-carbon electricity by 2045 (interpolated to 88 percent by 2040).

CES 2017

[Second Nature Annual Report](#)

Interpolated

scaled down by mobile emission factors in EMFAC 2017

CES 2017

[Second Nature Annual Report](#)

Interpolated

CalEEMod

Interpolated

CalEEMod

Interpolated

scaled by growth in student pop

Interpolated

CES 2017

[Second Nature Annual Report](#)

Interpolated

scaled down by mobile emission factors in EMFAC 2017 CalEEMod results minus campus fleet emissions attributed to LRDP

zero

Interpolated

growth

zero

Interpolated

CalEEMod

zero

Interpolated

CalEEMod

[Second Nature Annual Report](#)

Scaled by growth in research and development sf from existing

zero

zero

Interpolated

CalEEMod

zero

Interpolated

CalEEMod Based on 1.90E-11 MTSF5/kWh via CARB's GHG Inventory Query.

zero

Interpolated

Comparison to UC Carbon Neutrality Initiative Target

Emissions Source	1990	Existing 2018	Existing + LRDP	Existing + LRDP	Existing + LRDP
	Reference Emissions	(Baseline LRDP EIR Emissions)	(2025) (Interpolated)	(2030) (Interpolated)	-2040
Scope 1 and 2 Emissions without Reductions	22,826	32,544	34,833	35,717	37,175
Scope 1 Emissions Reductions (e.g., carbon offsets and on-site emission reduction projects)	0	2,161	12,773	20,353	35,513
Scope 2 Emissions Reductions (e.g., renewable energy credits)	0	0	529	907	1,662
Total Scope 1 and 2 Reductions	0	0	13,302	21,260	37,175
Scope 1 and 2 Emissions with Reductions	22,826	32,544	21,532	14,458	0
UC Carbon Neutrality Initiative Target (Scopes 1 and 2) ⁸ (MTCO ₂ e)			0	0	0
Meets UC Carbon Neutrality Initiative Target?			No	No	Yes

Comparison to State GHG Reduction Targets

Scope 1, 2, and 3 Emissions without reductions	49,656	55,324	59,525	61,101	63,944
Percent Change of Total Emissions(1) from 1990 (without reductions)	—	11%	20%	23%	29%
Scope 1, 2, and 3 Emissions with reductions	49,656	55,324	46,223	39,842	26,769
Percent Change of Total Emissions(1) from 1990 (with reductions)		11%	-7%	-20%	-46%
State GHG Reduction Targets (Percent Change from 1990)				-40%	-60%
Targetted Scope 1,2, and 3 Emissions under State Targets				29,794	19,862
Meets State GHG Reduction Targets?				No	No
Additional Reductions Needed to Meet State Targets				10,048	6,907

VMT forecasts from Fehr and Peers 12/14/2020

Metric	2019 Existing	2019 + Project	2019 + Project (mitigated)	2040 Cumulative	2040 + Project
Total Trips	28,900	44,700	NA	25,400	38,900
Total VMT Daily	298,000	439,000	425,926	257,000	372,000
Total VMT Annual*	85,619,444	126,130,658	122,374,320	73,839,588	106,880,649
VMT per Capita	9.1	7.9	7.7	7.1	6.5
Residential VMT per Capita	5.3	5.6	NA	5.2	5.4
Employment VMT per Capita	12.6	12.5	NA	11.3	11.2

* Calculated based on average full academic day equivalents in a year (287.31 days per year).

	Difference between 2019+Project and 2019 Existing (For CalEEMod Modeling)	
	unmitigated	mitigated
Total VMT Daily	141,000	127,926
Total VMT Annual*	40,511,214	36,754,876

Source: EMFAC2017 (v1.0.2) Emission Rates

Region Type: County

Region: Santa Cruz

Calendar Year: 2018, 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Region	Calendar Year	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	CO2_RUNEX	
Santa Cruz	2018	HHDT	Aggregate	Aggregate	Gasoline	0.51606786	24.04264	10.32549	2095.961566	50392.45701
Santa Cruz	2018	HHDT	Aggregate	Aggregate	Diesel	630.700055	46568.57	4931.95	1820.052819	84757251.32
Santa Cruz	2018	LDA	Aggregate	Aggregate	Gasoline	74528.2798	2680311	342844.7	301.5835797	808337871.6
Santa Cruz	2018	LDA	Aggregate	Aggregate	Diesel	1489.1187	53878.65	6803.499	242.7201712	13077434.5
Santa Cruz	2018	LDT1	Aggregate	Aggregate	Gasoline	8770.98749	320402.8	39798.33	346.8293734	111125102.4
Santa Cruz	2018	LDT1	Aggregate	Aggregate	Diesel	25.637933	429.3999	85.5632	454.9344345	195348.7938
Santa Cruz	2018	LDT2	Aggregate	Aggregate	Gasoline	35527.2906	1250589	159603	399.811047	499999468.4
Santa Cruz	2018	LDT2	Aggregate	Aggregate	Diesel	135.545773	5959.323	654.2663	323.2397153	1926290.027
Santa Cruz	2018	LHDT1	Aggregate	Aggregate	Gasoline	3311.42118	110084.5	49335.24	1051.256109	115727029.3
Santa Cruz	2018	LHDT1	Aggregate	Aggregate	Diesel	2607.13311	93051.11	32794.45	587.5293308	54670257.45
Santa Cruz	2018	LHDT2	Aggregate	Aggregate	Gasoline	412.174125	13739.54	6140.78	1203.175832	16531078.4
Santa Cruz	2018	LHDT2	Aggregate	Aggregate	Diesel	777.781864	29533.66	9783.517	656.3298113	19383821.56
Santa Cruz	2018	MCY	Aggregate	Aggregate	Gasoline	6371.94438	45221.11	12743.89	219.8818672	9943301.936
Santa Cruz	2018	MDV	Aggregate	Aggregate	Gasoline	23354.4596	808457.7	105431.1	470.389888	380290304
Santa Cruz	2018	MDV	Aggregate	Aggregate	Diesel	408.742747	18089.25	1983.16	420.0236976	7597912.635
Santa Cruz	2018	MH	Aggregate	Aggregate	Gasoline	835.459103	6665.799	83.57933	1875.664927	12502804.59
Santa Cruz	2018	MH	Aggregate	Aggregate	Diesel	247.366923	2402.82	24.73669	1073.234553	2578789.197
Santa Cruz	2018	MHDT	Aggregate	Aggregate	Gasoline	273.484357	11191.31	5471.875	1861.640559	20834197.69
Santa Cruz	2018	MHDT	Aggregate	Aggregate	Diesel	1833.90457	106762.5	19351.96	1134.653339	121138428.7
Santa Cruz	2018	OBUS	Aggregate	Aggregate	Gasoline	93.9549961	4792.477	1879.852	1877.049511	8995716.736
Santa Cruz	2018	OBUS	Aggregate	Aggregate	Diesel	60.3349921	3229.951	538.9084	1306.167835	4218858.096
Santa Cruz	2018	SBUS	Aggregate	Aggregate	Gasoline	8.94174799	480.0104	35.76699	903.8463557	433855.6636
Santa Cruz	2018	SBUS	Aggregate	Aggregate	Diesel	193.568376	6197.157	2233.752	1174.817225	7280526.286
Santa Cruz	2018	UBUS	Aggregate	Aggregate	Gasoline	6.89483309	211.336	27.57933	2249.988683	475503.618
Santa Cruz	2018	UBUS	Aggregate	Aggregate	Diesel	32.9288771	3192.217	131.7155	1365.313623	4358377.817
						Total VMT	5621466		Total grams	2306429923
									Composite g/mile	410.3
Santa Cruz	2040	HHDT	Aggregate	Aggregate	Gasoline	0.81033393	97.20906	16.21316	1536.460977	149357.9319
Santa Cruz	2040	HHDT	Aggregate	Aggregate	Diesel	675.562918	59175.39	5779.155	1161.637206	68740331.64
Santa Cruz	2040	LDA	Aggregate	Aggregate	Gasoline	113967.917	3426703	526435.1	198.3541072	679700663.5
Santa Cruz	2040	LDA	Aggregate	Aggregate	Diesel	1460.01911	43362.35	6709.903	161.3215249	6995279.732
Santa Cruz	2040	LDT1	Aggregate	Aggregate	Gasoline	11983.2613	351220.1	53737.41	234.1956714	82254229.8
Santa Cruz	2040	LDT1	Aggregate	Aggregate	Diesel	1.87935142	51.03231	8.085919	322.2715899	16446.26454
Santa Cruz	2040	LDT2	Aggregate	Aggregate	Gasoline	38959.2343	1162779	175845.4	233.3550034	271340199.7
Santa Cruz	2040	LDT2	Aggregate	Aggregate	Diesel	384.012399	11858.75	1764.076	214.7072723	2546160.712
Santa Cruz	2040	LHDT1	Aggregate	Aggregate	Gasoline	2168.92369	65254.76	32313.73	841.094575	54885423.68
Santa Cruz	2040	LHDT1	Aggregate	Aggregate	Diesel	1851.17272	57471.12	23285.42	451.7229854	25961025.14
Santa Cruz	2040	LHDT2	Aggregate	Aggregate	Gasoline	270.673202	8479.669	4032.627	954.6620799	8095218.727
Santa Cruz	2040	LHDT2	Aggregate	Aggregate	Diesel	767.477883	22842.36	9653.906	510.8701691	11669481.65
Santa Cruz	2040	MCY	Aggregate	Aggregate	Gasoline	5633.56482	28943.96	11267.13	219.060641	6340481.73
Santa Cruz	2040	MDV	Aggregate	Aggregate	Gasoline	24178.7218	707986.4	108568.5	284.6813118	201550507.1
Santa Cruz	2040	MDV	Aggregate	Aggregate	Diesel	839.234626	25371.43	3840.206	277.8829775	7050288.357
Santa Cruz	2040	MH	Aggregate	Aggregate	Gasoline	300.928377	2700.541	30.10487	1454.212142	3927159.206
Santa Cruz	2040	MH	Aggregate	Aggregate	Diesel	184.259395	1360.392	18.42594	892.9204349	1214722.176
Santa Cruz	2040	MHDT	Aggregate	Aggregate	Gasoline	216.359211	10537.96	4328.915	1417.117587	14933530.96
Santa Cruz	2040	MHDT	Aggregate	Aggregate	Diesel	1775.77994	98958.27	18598.51	826.1254576	81751949.15
Santa Cruz	2040	OBUS	Aggregate	Aggregate	Gasoline	60.3457219	2280.617	1207.397	1447.953196	3302226.068
Santa Cruz	2040	OBUS	Aggregate	Aggregate	Diesel	36.218967	1984.255	349.1387	1108.077953	2198709.716
Santa Cruz	2040	SBUS	Aggregate	Aggregate	Gasoline	31.9721434	1413.407	127.8886	708.6415428	1001599.098
Santa Cruz	2040	SBUS	Aggregate	Aggregate	Diesel	146.889424	4616.392	1695.084	937.3298951	4327082.589
Santa Cruz	2040	UBUS	Aggregate	Aggregate	Gasoline	8.13914523	249.4759	32.55658	1733.876922	432560.4406
Santa Cruz	2040	UBUS	Aggregate	Aggregate	Diesel	54.7542497	5787.757	219.017	1421.379554	8226599.106
						Total VMT	6101485		Total grams	1548611234
									Composite g/mile	253.8
									% Reduction	-38.14%

Assumptions

Category	Value	Notes	Source
Conversions			
g/MT		1,000,000	
lb/MT		2,205	
kg/MT		1,000	
kWh/MWh		1,000	
MWh/GWh		1,000	
kWh/MMBTU		293	
Btu/therm		99,976	
kBTU/therm		100	
MMBtu/therm		0.10	
kWh/therm		29.30	
kWh/kBTU		0.29307	
LPG Gallons/GGE		1.34	
LNG Gallons/GGE		1.57	
gal/cubic foot		7.48	
gal/Liter		3.79	
gallon/acrefoot		325,851.43	
sqft/acre		43,560.00	
sqft to square meter		0.09	
Energy Emission Factors			
eGRID2014 CAMX Emission Factors			
lb CO2/MWh	568.600		https://www.epa.gov/sites/production/files/2017-02/documents/egrid2014_summarytables_v2.pdf
lb CH4/GWh	33.100		
lb N2O/GWh	4.000		
2014 CAMX percent renewable	27%		
GWP			
CO2	1		
CH4	25	100 year horizon. With climate carbon feedbacks.	4th Assessment Report
N2O	298	100 year horizon. With climate carbon feedbacks.	4th Assessment Report

Pick IPCC Assessment Version GWP Factors

4th

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		0.50		1/1/2022
Grading/Excavation		2.25		1/17/2022
Drainage/Utilities/Sub-Grade		1.50		3/27/2022
Paving		0.75		5/12/2022
Totals (Months)		5		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions		User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT					
User Input											
Miles/round trip: Grubbing/Land Clearing			30.00		0	0.00					
Miles/round trip: Grading/Excavation			30.00		0	0.00					
Miles/round trip: Drainage/Utilities/Sub-Grade			30.00		0	0.00					
Miles/round trip: Paving			30.00		0	0.00					
2010+ Model Year Mitigation Option Emission Rates											
	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52	
Grading/Excavation (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52	
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52	
Paving (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52	
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Grading/Excavation (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Paving (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling Emissions		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions		User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT					
User Input											
Miles/round trip: Grubbing/Land Clearing			30.00		0	0.00					
Miles/round trip: Grading/Excavation			30.00		0	0.00					
Miles/round trip: Drainage/Utilities/Sub-Grade			30.00		0	0.00					
Miles/round trip: Paving			30.00		0	0.00					
2010+ Model Year Mitigation Option Emission Rates											
	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52	
Grading/Excavation (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52	
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52	
Paving (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52	
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Grading/Excavation (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Paving (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Emissions		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions										
User Input	User Override of Worker Commute Default Values	Default Values		Calculated Daily Trips	Calculated Daily VMT					
Miles/ one-way trip	2	20								
One-way trips/day										
No. of employees: Grubbing/Land Clearing		5		10	200.00					
No. of employees: Grading/Excavation		28		56	1,120.00					
No. of employees: Drainage/Utilities/Sub-Grade		18		36	720.00					
No. of employees: Paving		8		16	320.00					
Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96
Grading/Excavation (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96
Draining/Utilities/Sub-Grade (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96
Paving (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96
Grubbing/Land Clearing (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43
Grading/Excavation (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43
Draining/Utilities/Sub-Grade (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43
Paving (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43
Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.03	0.50	0.04	0.02	0.01	0.00	146.50	0.00	0.00	147.74
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.00	0.00	0.81
Pounds per day - Grading/Excavation	0.18	2.82	0.25	0.11	0.05	0.01	820.38	0.02	0.02	827.37
Tons per const. Period - Grading/Excavation	0.00	0.07	0.01	0.00	0.00	0.00	20.30	0.00	0.00	20.48
Pounds per day - Drainage/Utilities/Sub-Grade	0.12	1.81	0.16	0.07	0.03	0.01	527.39	0.01	0.01	531.88
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.03	0.00	0.00	0.00	0.00	8.70	0.00	0.00	8.78
Pounds per day - Paving	0.05	0.81	0.07	0.03	0.01	0.00	234.39	0.01	0.01	236.39
Tons per const. Period - Paving	0.00	0.01	0.00	0.00	0.00	0.00	1.93	0.00	0.00	1.95
Total tons per construction project	0.01	0.11	0.01	0.00	0.00	0.00	31.75	0.00	0.00	32.02

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions										
User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT		
Grubbing/Land Clearing - Exhaust		0		5	0		8.00	0.00		
Grading/Excavation - Exhaust		0		5	0		8.00	0.00		
Drainage/Utilities/Subgrade		0		5	0		8.00	0.00		
Paving		0		5	0		8.00	0.00		
2010+ Model Year Mitigation Option Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Paving (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.03	0.60	0.00	0.12	0.00
Fugitive Dust - Grading/Excavation		0.03	0.60	0.01	0.12	0.00
Fugitive Dust - Drainage/Utilities/Subgrade		0.03	0.60	0.01	0.12	0.00

Off-Road Equipment Emissions															
Grubbing/Land Clearing		Default Number of Vehicles	Mitigation Option Override of	Default	Emissions reflect reduction due to 20% NOx and 45% Exhaust PM reduction Mitigation Option Selected										
Override of Default Number of Vehicles	Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day	
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1		Model Default Tier	Crawler Tractors	0.49	2.31	4.81	0.12	0.11	0.01	759.03	0.25	0.01	767.22	
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2		Model Default Tier	Excavators	0.40	6.51	2.84	0.09	0.09	0.01	1,000.03	0.32	0.01	1,010.81	
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1		Model Default Tier	Signal Boards	0.06	0.30	0.29	0.01	0.01	0.00	49.31	0.01	0.00	49.56	
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
User-Defined Off-road Equipment					ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab					pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
Number of Vehicles	Equipment Tier	Type													
0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Grubbing/Land Clearing					pounds per day	0.95	9.13	7.94	0.23	0.21	0.02	1,808.38	0.57	0.02	1,827.60
Grubbing/Land Clearing					tons per phase	0.01	0.05	0.04	0.00	0.00	0.00	9.95	0.00	0.00	10.05

				Emissions reflect reduction due to 20% NOx and 45% Exhaust PM reduction Mitigation Option Selected										
Grading/Excavation	Default	Mitigation Option	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
	Number of Vehicles	Override of		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
Override of Default Number of Vehicles	Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)		Type										
		Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
		Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Model Default Tier	Cranes	0.37	1.89	3.35	0.10	0.09	0.01	558.83	0.18	0.01	564.85	
	2	Model Default Tier	Crawler Tractors	0.98	4.63	9.61	0.25	0.23	0.02	1,518.07	0.49	0.01	1,534.44	
		Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	4	Model Default Tier	Excavators	0.81	13.02	5.69	0.19	0.17	0.02	2,000.06	0.65	0.02	2,021.63	
		Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2	Model Default Tier	Graders	0.83	3.44	8.41	0.18	0.17	0.01	1,282.56	0.41	0.01	1,296.37	
		Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	3	Model Default Tier	Rollers	0.50	5.58	4.14	0.16	0.15	0.01	762.31	0.25	0.01	770.53	
		Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	3	Model Default Tier	Rubber Tired Loaders	0.87	4.59	7.26	0.17	0.15	0.02	1,816.99	0.59	0.02	1,836.61	
	4	Model Default Tier	Scrapers	3.28	25.50	28.62	0.77	0.71	0.06	5,881.18	1.90	0.05	5,944.58	
	1	Model Default Tier	Signal Boards	0.06	0.30	0.29	0.01	0.01	0.00	49.31	0.01	0.00	49.56	
		Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2	Model Default Tier	Tractors/Loaders/Backhoes	0.33	4.48	2.68	0.10	0.09	0.01	602.48	0.19	0.01	608.96	
		Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
User-Defined Off-road Equipment				If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab										
	Number of Vehicles	Equipment Tier		Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Grading/Excavation		pounds per day	8.03	63.44	70.05	1.92	1.77	0.15	14,471.80	4.67	0.13	14,627.53
		Grading/Excavation		tons per phase	0.20	1.57	1.73	0.05	0.04	0.00	358.18	0.12	0.00	362.03

Drainage/Utilities/Subgrade				Emissions reflect reduction due to 20% NOx and 45% Exhaust PM reduction Mitigation Option Selected										
Default	Default	Mitigation Option	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Number of Vehicles	Override of	Override of	Equipment Tier	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier												
		Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Model Default Tier	Air Compressors	0.27	2.42	1.50	0.06	0.06	0.00	375.26	0.02	0.00	376.72	
		Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Model Default Tier	Generator Sets	0.33	3.68	2.34	0.08	0.08	0.01	623.04	0.03	0.00	625.17	
	2	Model Default Tier	Graders	0.83	3.44	8.41	0.18	0.17	0.01	1,282.56	0.41	0.01	1,296.37	
		Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Model Default Tier	Plate Compactors	0.04	0.21	0.20	0.01	0.01	0.00	34.48	0.00	0.00	34.65	
		Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Model Default Tier	Pumps	0.35	3.73	2.38	0.09	0.09	0.01	623.04	0.03	0.00	625.23	
		Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Model Default Tier	Rough Terrain Forklifts	0.11	2.29	1.18	0.03	0.03	0.00	333.75	0.11	0.00	337.35	
		Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	4	Model Default Tier	Scrapers	3.28	25.50	28.62	0.77	0.71	0.06	5,881.18	1.90	0.05	5,944.58	
	1	Model Default Tier	Signal Boards	0.06	0.30	0.29	0.01	0.01	0.00	49.31	0.01	0.00	49.56	
		Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2	Model Default Tier	Tractors/Loaders/Backhoes	0.33	4.48	2.68	0.10	0.09	0.01	602.48	0.19	0.01	608.96	
		Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
User-Defined Off-road Equipment				ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab				pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
Number of Vehicles	Equipment Tier	Type												
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Drainage/Utilities/Sub-Grade			pounds per day	5.60	46.05	47.61	1.32	1.23	0.10	9,805.10	2.71	0.09	9,898.60	
Drainage/Utilities/Sub-Grade			tons per phase	0.09	0.76	0.79	0.02	0.02	0.00	161.78	0.04	0.00	163.33	

				Emissions reflect reduction due to 20% NOx and 45% Exhaust PM reduction Mitigation Option Selected										
Paving	Default	Mitigation Option	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
	Number of Vehicles	Override of		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
Override of Default Number of Vehicles		Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)												
	Program-estimate		Equipment Tier	Type										
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1		Model Default Tier	Pavers	0.21	2.88	1.68	0.05	0.05	0.00	455.26	0.15	0.00	
	1		Model Default Tier	Paving Equipment	0.18	2.55	1.39	0.05	0.04	0.00	394.47	0.13	0.00	
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1		Model Default Tier	Rollers	0.17	1.86	1.38	0.05	0.05	0.00	254.10	0.08	0.00	
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1		Model Default Tier	Signal Boards	0.06	0.30	0.29	0.01	0.01	0.00	49.31	0.01	0.00	
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.33	4.48	2.68	0.10	0.09	0.01	602.48	0.19	0.01	
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
User-Defined Off-road Equipment				If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab										
	Number of Vehicles		Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Paving		pounds per day	0.94	12.07	7.42	0.26	0.24	0.02	1,755.62	0.56	0.02	1,774.26
		Paving		tons per phase	0.01	0.10	0.06	0.00	0.00	0.00	14.48	0.00	0.00	14.64
Total Emissions all Phases (tons per construction period) =>					0.30	2.48	2.62	0.07	0.07	0.01	544.39	0.17	0.00	550.05

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

Bridge Construction Modeling

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for ->														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.99	9.63	7.98	0.85	0.25	0.60	0.34	0.22	0.12	0.02	1,954.87	0.58	0.02	1,975.34
Grading/Excavation	8.21	66.26	70.29	2.64	2.04	0.60	1.94	1.82	0.12	0.16	15,292.18	4.69	0.15	15,454.91
Drainage/Utilities/Sub-Grade	5.72	47.86	47.76	1.99	1.39	0.60	1.39	1.26	0.12	0.11	10,332.49	2.73	0.10	10,430.48
Paving	0.99	12.87	7.49	0.30	0.30	0.00	0.26	0.26	0.00	0.02	1,990.02	0.56	0.02	2,010.65
Maximum (pounds/day)	8.21	66.26	70.29	2.64	2.04	0.60	1.94	1.82	0.12	0.16	15,292.18	4.69	0.15	15,454.91
Total (tons/construction project)	0.31	2.59	2.63	0.11	0.08	0.03	0.08	0.07	0.01	0.01	576.14	0.17	0.01	582.06

Notes:
 Project Start Year -> 2022
 Project Length (months) -> 5
 Total Project Area (acres) -> 0
 Maximum Area Disturbed/Day (acres) -> 0
 Water Truck Used? -> No

Phase	Total Material Imported/Exported Volume (yd ³ /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	200	0
Grading/Excavation	0	0	0	0	1,120	0
Drainage/Utilities/Sub-Grade	0	0	0	0	720	0
Paving	0	0	0	0	320	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for ->														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.75	0.00	0.00	9.86
Grading/Excavation	0.20	1.64	1.74	0.07	0.05	0.01	0.05	0.05	0.00	0.00	378.48	0.12	0.00	347.01
Drainage/Utilities/Sub-Grade	0.09	0.79	0.79	0.03	0.02	0.01	0.02	0.02	0.00	0.00	170.49	0.05	0.00	156.13
Paving	0.01	0.11	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.42	0.00	0.00	15.05
Maximum (tons/phase)	0.20	1.64	1.74	0.07	0.05	0.01	0.05	0.05	0.00	0.00	378.48	0.12	0.00	347.01
Total (tons/construction project)	0.31	2.59	2.63	0.11	0.08	0.03	0.08	0.07	0.01	0.01	576.14	0.17	0.01	528.05

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.


Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model
Data Entry Worksheet

Version 9.0.0



Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Input Type

Project Name	UC Santa Cruz LRDP - Roads	
Construction Start Year	2022	Enter a Year between 2014 and 2040 (inclusive)
Project Type	1	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	5.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	1	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the lone formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	2.00	miles
Total Project Area	0.30	acres
Maximum Area Disturbed/Day	0.30	acres
Water Trucks Used?	2	1. Yes 2. No

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd ³) (assume 20 if unknown)	Import Volume (yd ³ /day)	Export Volume (yd ³ /day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		38.67
	Drainage/Utilities/Sub-Grade	20.00		22.21
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00	103.11	

Mitigation Options

On-road Fleet Emissions Mitigation		Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation		Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		0.50		1/1/2022
Grading/Excavation		2.00		1/17/2022
Drainage/Utilities/Sub-Grade		1.75		3/19/2022
Paving		0.75		5/12/2022
Totals (Months)		5		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions		User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT					
User Input											
Miles/round trip: Grubbing/Land Clearing		40.00	30.00		0	0.00					
Miles/round trip: Grading/Excavation		40.00	30.00		2	80.00					
Miles/round trip: Drainage/Utilities/Sub-Grade		40.00	30.00		2	80.00					
Miles/round trip: Paving		40.00	30.00		0	0.00					
Emission Rates		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)		0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)		0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Draining/Utilities/Sub-Grade (grams/mile)		0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Paving (grams/mile)		0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grubbing/Land Clearing (grams/trip)		0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)		0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)		0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)		0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation		0.01	0.07	0.56	0.02	0.01	0.00	308.40	0.00	0.05	322.85
Tons per const. Period - Grading/Excavation		0.00	0.00	0.01	0.00	0.00	0.00	6.78	0.00	0.00	7.10
Pounds per day - Drainage/Utilities/Sub-Grade		0.01	0.07	0.56	0.02	0.01	0.00	308.40	0.00	0.05	322.85
Tons per const. Period - Drainage/Utilities/Sub-Grade		0.00	0.00	0.01	0.00	0.00	0.00	5.94	0.00	0.00	6.21
Pounds per day - Paving		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project		0.00	0.00	0.02	0.00	0.00	0.00	12.72	0.00	0.00	13.32

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions		User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT					
User Input											
Miles/round trip: Grubbing/Land Clearing			30.00		0	0.00					
Miles/round trip: Grading/Excavation			30.00		0	0.00					
Miles/round trip: Drainage/Utilities/Sub-Grade			30.00		0	0.00					
Miles/round trip: Paving			30.00		6	180.00					
Emission Rates		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)		0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)		0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Draining/Utilities/Sub-Grade (grams/mile)		0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Paving (grams/mile)		0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grubbing/Land Clearing (grams/trip)		0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)		0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)		0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)		0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving		0.02	0.17	1.27	0.04	0.02	0.01	693.89	0.00	0.11	726.41
Tons per const. Period - Paving		0.00	0.00	0.01	0.00	0.00	0.00	5.72	0.00	0.00	5.99
Total tons per construction project		0.00	0.00	0.01	0.00	0.00	0.00	5.72	0.00	0.00	5.99

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions											
User Input	User Override of Worker Commute Default Values		Default Values		Calculated Daily Trips	Calculated Daily VMT					
Miles/ one-way trip			20								
One-way trips/day			2								
No. of employees: Grubbing/Land Clearing			8		16	320.00					
No. of employees: Grading/Excavation			20		40	800.00					
No. of employees: Drainage/Utilities/Sub-Grade			18		36	720.00					
No. of employees: Paving			14		28	560.00					
Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Grubbing/Land Clearing (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96	
Grading/Excavation (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96	
Draining/Utilities/Sub-Grade (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96	
Paving (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96	
Grubbing/Land Clearing (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43	
Grading/Excavation (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43	
Draining/Utilities/Sub-Grade (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43	
Paving (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43	
Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Pounds per day - Grubbing/Land Clearing	0.05	0.81	0.07	0.03	0.00	0.00	234.39	0.01	0.01	236.39	
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	1.29	0.00	0.00	1.30	
Pounds per day - Grading/Excavation	0.13	2.02	0.18	0.08	0.03	0.01	585.99	0.01	0.02	590.98	
Tons per const. Period - Grading/Excavation	0.00	0.04	0.00	0.00	0.00	0.00	12.89	0.00	0.00	13.00	
Pounds per day - Drainage/Utilities/Sub-Grade	0.12	1.81	0.16	0.07	0.03	0.01	527.39	0.01	0.01	531.88	
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.03	0.00	0.00	0.00	0.00	10.15	0.00	0.00	10.24	
Pounds per day - Paving	0.09	1.41	0.12	0.06	0.02	0.00	410.19	0.01	0.01	413.69	
Tons per const. Period - Paving	0.00	0.01	0.00	0.00	0.00	0.00	3.38	0.00	0.00	3.41	
Total tons per construction project	0.01	0.10	0.01	0.00	0.00	0.00	27.72	0.00	0.00	27.95	

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions										
User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT		
Grubbing/Land Clearing - Exhaust		0		5	0		8.00	0.00		
Grading/Excavation - Exhaust		0		5	0		8.00	0.00		
Drainage/Utilities/Subgrade		0		5	0		8.00	0.00		
Paving		0		5	0		8.00	0.00		
Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Paving (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.30	6.00	0.03	1.25	0.01
Fugitive Dust - Grading/Excavation		0.30	6.00	0.13	1.25	0.03
Fugitive Dust - Drainage/Utilities/Subgrade		0.30	6.00	0.12	1.25	0.02

Off-Road Equipment Emissions															
Grubbing/Land Clearing		Default Number of Vehicles	Mitigation Option Override of	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Override of Default Number of Vehicles	Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
				Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1			Model Default Tier	Crawler Tractors	0.49	2.31	6.01	0.23	0.21	0.01	759.03	0.25	0.01	
				Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.00		1		Model Default Tier	Excavators	0.20	3.26	1.78	0.09	0.08	0.01	500.02	0.16	0.00	
				Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.00				Model Default Tier	Rubber Tired Dozers	0.84	3.58	8.79	0.42	0.38	0.01	827.04	0.27	0.01	
				Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		4		Model Default Tier	Signal Boards	0.23	1.20	1.44	0.06	0.06	0.00	197.25	0.02	0.00	
				Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
User-Defined Off-road Equipment					<i>If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab</i>										
Number of Vehicles		Equipment Tier			Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Grubbing/Land Clearing			pounds per day	1.76	10.36	18.02	0.79	0.73	0.02	2,283.34	0.70	0.02	2,306.83
		Grubbing/Land Clearing			tons per phase	0.01	0.06	0.10	0.00	0.00	0.00	12.56	0.00	0.00	12.69

Grading/Excavation		Default Number of Vehicles	Mitigation Option Override of	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles		Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0		Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Crawler Tractors	0.49	2.31	6.01	0.23	0.21	0.01	759.03	0.25	0.01	767.22
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Excavators	0.61	9.77	5.33	0.26	0.24	0.02	1,500.05	0.49	0.01	1,516.22
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Graders	0.41	1.72	5.26	0.17	0.15	0.01	641.28	0.21	0.01	648.19
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rollers	0.33	3.72	3.45	0.20	0.18	0.01	508.21	0.16	0.00	513.68
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Rubber Tired Loaders	0.29	1.53	3.02	0.10	0.09	0.01	605.66	0.20	0.01	612.20
	2		Model Default Tier	Scrapers	1.64	12.75	17.89	0.70	0.64	0.03	2,940.59	0.95	0.03	2,972.29
	4		Model Default Tier	Signal Boards	0.23	1.20	1.44	0.06	0.06	0.00	197.25	0.02	0.00	198.26
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.33	4.48	3.35	0.18	0.17	0.01	602.48	0.19	0.01	608.96
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User-Defined Off-road Equipment		If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab												
Number of Vehicles	Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e		
0.00	N/A		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	N/A		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	N/A		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	N/A		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	N/A		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	N/A		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Grading/Excavation	pounds per day	4.34	37.49	45.75	1.89	1.74	0.08	7,754.56	2.46	0.07	7,837.02		
	Grading/Excavation	tons per phase	0.10	0.82	1.01	0.04	0.04	0.00	170.60	0.05	0.00	172.41		

Drainage/Utilities/Subgrade		Default Number of Vehicles	Mitigation Option Override of	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles		Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		1	Model Default Tier	Air Compressors	0.27	2.42	1.88	0.11	0.11	0.00	375.26	0.02	0.00	376.72
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		1	Model Default Tier	Generator Sets	0.33	3.68	2.93	0.15	0.15	0.01	623.04	0.03	0.00	625.17
		1	Model Default Tier	Graders	0.41	1.72	5.26	0.17	0.15	0.01	641.28	0.21	0.01	648.19
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		1	Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		1	Model Default Tier	Pumps	0.35	3.73	2.97	0.16	0.16	0.01	623.04	0.03	0.00	625.23
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		1	Model Default Tier	Rough Terrain Forklifts	0.11	2.29	1.48	0.05	0.05	0.00	333.75	0.11	0.00	337.35
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	Model Default Tier	Scrapers	1.64	12.75	17.89	0.70	0.64	0.03	2,940.59	0.95	0.03	2,972.29
		4	Model Default Tier	Signal Boards	0.23	1.20	1.44	0.06	0.06	0.00	197.25	0.02	0.00	198.26
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	Model Default Tier	Tractors/Loaders/Backhoes	0.33	4.48	3.35	0.18	0.17	0.01	602.48	0.19	0.01	608.96
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User-Defined Off-road Equipment					ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles		Equipment Tier			pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage/Utilities/Sub-Grade				pounds per day	3.72	32.48	37.44	1.57	1.49	0.07	6,371.17	1.57	6,426.82
	Drainage/Utilities/Sub-Grade				tons per phase	0.07	0.63	0.72	0.03	0.03	0.00	122.65	0.03	123.72

Roadway Construction Modeling

Paving	Default	Mitigation Option	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
	Number of Vehicles	Override of												
Override of Default Number of Vehicles	Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1		Model Default Tier	Pavers	0.21	2.88	2.10	0.10	0.09	0.00	455.26	0.15	460.17	
	1		Model Default Tier	Paving Equipment	0.18	2.55	1.74	0.08	0.08	0.00	394.47	0.13	398.73	
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	3		Model Default Tier	Rollers	0.50	5.58	5.18	0.30	0.27	0.01	762.31	0.25	770.53	
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	4		Model Default Tier	Signal Boards	0.23	1.20	1.44	0.06	0.06	0.00	197.25	0.02	198.26	
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.33	4.48	3.35	0.18	0.17	0.01	602.48	0.19	608.96	
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
User-Defined Off-road Equipment				<i>If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab</i>										
	Number of Vehicles		Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Paving		pounds per day	1.44	16.69	13.80	0.72	0.67	0.03	2,411.77	0.74	0.02	2,436.64
		Paving		tons per phase	0.01	0.14	0.11	0.01	0.01	0.00	19.90	0.01	0.00	20.10
Total Emissions all Phases (tons per construction period) =>					0.19	1.64	1.94	0.08	0.08	0.00	325.70	0.09	0.00	328.92

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

Roadway Construction Modeling

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> UC Santa Cruz LRDP - Roads														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.81	11.16	18.09	6.82	0.82	6.00	1.99	0.74	1.25	0.03	2,517.73	0.70	0.03	2,543.22
Grading/Excavation	4.47	39.58	46.49	7.99	1.99	6.00	3.03	1.78	1.25	0.09	8,648.94	2.48	0.13	8,750.85
Drainage/Utilities/Sub-Grade	3.84	34.37	38.16	7.67	1.67	6.00	2.77	1.53	1.25	0.08	7,206.95	1.58	0.12	7,281.55
Paving	1.55	18.27	15.20	0.82	0.82	0.00	0.71	0.71	0.00	0.04	3,515.85	0.75	0.14	3,576.73
Maximum (pounds/day)	4.47	39.58	46.49	7.99	1.99	6.00	3.03	1.78	1.25	0.09	8,648.94	2.48	0.14	8,750.85
Total (tons/construction project)	0.20	1.74	1.98	0.37	0.09	0.28	0.14	0.08	0.06	0.00	371.86	0.10	0.01	376.18

Notes:
 Project Start Year -> 2022
 Project Length (months) -> 5
 Total Project Area (acres) -> 0
 Maximum Area Disturbed/Day (acres) -> 0
 Water Truck Used? -> No

Phase	Total Material Imported/Exported Volume (yd ³ /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	320	0
Grading/Excavation	39	0	80	0	800	0
Drainage/Utilities/Sub-Grade	22	0	80	0	720	0
Paving	0	103	0	180	560	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> UC Santa Cruz LRDP - Roads														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.06	0.10	0.04	0.00	0.03	0.01	0.00	0.01	0.00	13.85	0.00	0.00	12.69
Grading/Excavation	0.10	0.87	1.02	0.18	0.04	0.13	0.07	0.04	0.03	0.00	190.28	0.05	0.00	174.65
Drainage/Utilities/Sub-Grade	0.07	0.66	0.73	0.15	0.03	0.12	0.05	0.03	0.02	0.00	138.73	0.03	0.00	127.16
Paving	0.01	0.15	0.13	0.01	0.01	0.00	0.01	0.01	0.00	0.00	29.01	0.01	0.00	26.77
Maximum (tons/phase)	0.10	0.87	1.02	0.18	0.04	0.13	0.07	0.04	0.03	0.00	190.28	0.05	0.00	174.65
Total (tons/construction project)	0.20	1.74	1.98	0.37	0.09	0.28	0.14	0.08	0.06	0.00	371.86	0.10	0.01	341.27

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Annual

UCSC - 2020 LRDP - Construction Trails Only
Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	2.00	User Defined Unit	0.00	110,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Annual

Project Characteristics - Construction only

Land Use - Construct 2 miles of trails per year at 1000 ft/day (10 ft wide) = 11 days and 110,000 sq ft. Assume Construction for 1 year = 1/18 of total construction (2022-2039).

Construction Phase - 1 year construction schedule (2022).

Off-road Equipment - Only 1 phase, Site Prep. Assume 1 Dozer and 1 Excavator.

Off-road Equipment - Only 1 phase, Site Prep. Assume 1 Dozer and 1 Excavator.

Trips and VMT - Assume 5 worker trips per day. Default trip lengths.

On-road Fugitive Dust -

Demolition -

Grading -

Architectural Coating -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation - Mitigation - Due to the limited number of equipment, assume all trail equipment are Tier 3

Energy Mitigation -

Fleet Mix -

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	0.00	11.00
tblLandUse	LandUseSquareFeet	0.00	110,000.00
tblOffRoadEquipment	HorsePower	158.00	97.00
tblOffRoadEquipment	HorsePower	247.00	187.00
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.41
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

2.0 Emissions Summary

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-3-2022	4-2-2022	0.0499	0.0276
		Highest	0.0499	0.0276

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	0.5061	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.5061	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Annual

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	0.5061	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.5061	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/10/2022	1/24/2022	5	11	Trails

Acres of Grading (Site Preparation Phase): 0

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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
Site Preparation	Excavators	1	8.00	97	0.37
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	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

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3.2 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					0.0331	0.0000	0.0331	0.0182	0.0000	0.0182	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4500e-003	0.0466	0.0274	5.0000e-005		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	4.6791	4.6791	1.5100e-003	0.0000	4.7170
Total	4.4500e-003	0.0466	0.0274	5.0000e-005	0.0331	2.2600e-003	0.0354	0.0182	2.0800e-003	0.0203	0.0000	4.6791	4.6791	1.5100e-003	0.0000	4.7170

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	9.0000e-005	8.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1885	0.1885	1.0000e-005	0.0000	0.1887
Total	1.1000e-004	9.0000e-005	8.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1885	0.1885	1.0000e-005	0.0000	0.1887

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3.2 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					0.0331	0.0000	0.0331	0.0182	0.0000	0.0182	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	0.0268	0.0322	5.0000e-005		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	4.6791	4.6791	1.5100e-003	0.0000	4.7170
Total	1.3100e-003	0.0268	0.0322	5.0000e-005	0.0331	1.3200e-003	0.0344	0.0182	1.3200e-003	0.0195	0.0000	4.6791	4.6791	1.5100e-003	0.0000	4.7170

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	9.0000e-005	8.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1885	0.1885	1.0000e-005	0.0000	0.1887
Total	1.1000e-004	9.0000e-005	8.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1885	0.1885	1.0000e-005	0.0000	0.1887

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Recreational	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5061	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Unmitigated	0.5061	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

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	0.0765					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4296					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	0.5061	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

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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	0.0765					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4296					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	0.5061	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

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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

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Summer

UCSC - 2020 LRDP - Construction Trails Only
Santa Cruz County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	2.00	User Defined Unit	0.00	110,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Summer

Project Characteristics - Construction only

Land Use - Construct 2 miles of trails per year at 1000 ft/day (10 ft wide) = 11 days and 110,000 sq ft. Assume Construction for 1 year = 1/18 of total construction (2022-2039).

Construction Phase - 1 year construction schedule (2022).

Off-road Equipment - Only 1 phase, Site Prep. Assume 1 Dozer and 1 Excavator.

Off-road Equipment - Only 1 phase, Site Prep. Assume 1 Dozer and 1 Excavator.

Trips and VMT - Assume 5 worker trips per day. Default trip lengths.

On-road Fugitive Dust -

Demolition -

Grading -

Architectural Coating -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation - Mitigation - Due to the limited number of equipment, assume all trail equipment are Tier 3

Energy Mitigation -

Fleet Mix -

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	0.00	11.00
tblLandUse	LandUseSquareFeet	0.00	110,000.00
tblOffRoadEquipment	HorsePower	158.00	97.00
tblOffRoadEquipment	HorsePower	247.00	187.00
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.41
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

2.0 Emissions Summary

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.7731	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	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	2.7731	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000	0.0000	4.7000e-004

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.7731	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	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	2.7731	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000	0.0000	4.7000e-004

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Summer

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/10/2022	1/24/2022	5	11	Trails

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Excavators	1	8.00	97	0.37
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Summer

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 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	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	0.8089	8.4739	4.9782	9.6800e-003		0.4109	0.4109		0.3781	0.3781		937.7924	937.7924	0.3033		945.3749
Total	0.8089	8.4739	4.9782	9.6800e-003	6.0221	0.4109	6.4330	3.3102	0.3781	3.6883		937.7924	937.7924	0.3033		945.3749

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3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0194	0.0146	0.1583	4.0000e-004	0.0411	3.2000e-004	0.0414	0.0109	3.0000e-004	0.0112		39.6166	39.6166	1.4400e-003		39.6526
Total	0.0194	0.0146	0.1583	4.0000e-004	0.0411	3.2000e-004	0.0414	0.0109	3.0000e-004	0.0112		39.6166	39.6166	1.4400e-003		39.6526

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	0.2382	4.8716	5.8579	9.6800e-003		0.2405	0.2405		0.2405	0.2405	0.0000	937.7924	937.7924	0.3033		945.3749
Total	0.2382	4.8716	5.8579	9.6800e-003	6.0221	0.2405	6.2626	3.3102	0.2405	3.5508	0.0000	937.7924	937.7924	0.3033		945.3749

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3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0194	0.0146	0.1583	4.0000e-004	0.0411	3.2000e-004	0.0414	0.0109	3.0000e-004	0.0112		39.6166	39.6166	1.4400e-003		39.6526
Total	0.0194	0.0146	0.1583	4.0000e-004	0.0411	3.2000e-004	0.0414	0.0109	3.0000e-004	0.0112		39.6166	39.6166	1.4400e-003		39.6526

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

UCSC - 2020 LRDP - Construction Trails Only - Santa Cruz County, Summer

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Recreational	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7731	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	2.7731	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4191					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.3540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	2.7731	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4191					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.3540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	2.7731	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

7.0 Water Detail

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7.1 Mitigation Measures Water**8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	62.63	1000sqft	1.44	62,631.83	0
University/College (4Yr)	527.00	Student	2.22	71,691.00	0
General Light Industry	3.22	1000sqft	0.07	3,216.83	0
Parking Lot	2.39	Acre	2.39	104,237.50	0
Health Club	33.78	1000sqft	0.78	33,783.89	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	24,444.40	31
Apartments Mid Rise	70.00	Dwelling Unit	1.84	69,833.30	473

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	4			Operational Year	2023
Utility Company	Modesto Irrigation District				
CO2 Intensity (lb/MW hr)	833.46	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - UCSC Electricity Emission Factors for 2022 reflect State averages

Land Use - Values specified in Project Description. Assume Construction for 1 year = 1/18 of total construction (2022-2039).

Construction Phase - Condensed to 1 year construction schedule (2022).

Off-road Equipment -

Off-road Equipment - Equipment associated with building construction increased to reflect condensed schedule.

Off-road Equipment -

Trips and VMT -

On-road Fugitive Dust -

Demolition -

Grading -

Architectural Coating -

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied. (EMFAC2017 2022)

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied. (EMFAC2017 2022)

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied. (EMFAC2017 2022)

Woodstoves -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation - Mitigation: approximatedly 80% of equipment will meet Tier 3 Final standards.

Area Mitigation - Mitigation: Use no- or low-solids content (i.e., no- or low-VOC) architectural coatings with a maximum VOC content of 50 g/L.

Energy Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	85,662.00	57,108.00

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tblArchitecturalCoating	ConstArea_Nonresidential_Interior	256,985.00	171,323.00
tblAreaCoating	Area_Nonresidential_Exterior	85662	57108
tblAreaCoating	Area_Nonresidential_Interior	256985	171323
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	150	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	50
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	101.00
tblConstructionPhase	NumDays	300.00	230.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	30.00	100.00
tblConstructionPhase	NumDays	20.00	172.00
tblConstructionPhase	NumDays	10.00	73.00
tblGrading	AcresOfGrading	50.00	10.00
tblLandUse	LandUseSquareFeet	62,630.00	62,631.83
tblLandUse	LandUseSquareFeet	96,861.27	71,691.00
tblLandUse	LandUseSquareFeet	3,220.00	3,216.83
tblLandUse	LandUseSquareFeet	104,108.40	104,237.50
tblLandUse	LandUseSquareFeet	33,780.00	33,783.89
tblLandUse	LandUseSquareFeet	25,000.00	24,444.40
tblLandUse	LandUseSquareFeet	70,000.00	69,833.30
tblLandUse	Population	72.00	31.00
tblLandUse	Population	200.00	473.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblSolidWaste	SolidWasteGenerationRate	3.99	2.65
tblSolidWaste	SolidWasteGenerationRate	192.55	128.36
tblSolidWaste	SolidWasteGenerationRate	4.76	3.17
tblTripsAndVMT	VendorTripNumber	55.00	46.00
tblTripsAndVMT	WorkerTripNumber	178.00	156.00
tblTripsAndVMT	WorkerTripNumber	36.00	31.00
tblWater	IndoorWaterUseRate	744,625.00	494,875.00
tblWater	IndoorWaterUseRate	1,997,855.41	1,331,903.60
tblWater	IndoorWaterUseRate	30,794,791.91	20,533,139.24
tblWater	OutdoorWaterUseRate	1,224,492.02	816,328.02

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-3-2022	4-2-2022	2.5711	1.8364
2	4-3-2022	7-2-2022	2.7059	2.1477
3	7-3-2022	9-30-2022	1.6921	1.6139
		Highest	2.7059	2.1477

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	1.2149	0.0114	0.9880	5.0000e-005		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	1.6159	1.6159	1.5800e-003	0.0000	1.6554
Energy	0.0281	0.2533	0.1963	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	968.1008	968.1008	0.0293	0.0101	971.8349
Mobile	1.0663	3.7022	12.5310	0.0325	2.4785	0.0348	2.5133	0.6749	0.0326	0.7075	0.0000	2,970.2066	2,970.2066	0.1364	0.0000	2,973.6169
Waste						0.0000	0.0000		0.0000	0.0000	55.6317	0.0000	55.6317	3.2877	0.0000	137.8252
Water						0.0000	0.0000		0.0000	0.0000	9.4154	69.2888	78.7042	0.9695	0.0233	109.8941
Total	2.3093	3.9668	13.7153	0.0341	2.4785	0.0597	2.5382	0.6749	0.0574	0.7324	65.0471	4,009.2122	4,074.2593	4.4245	0.0334	4,194.8266

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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	1.1310	0.0114	0.9880	5.0000e-005		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	1.6159	1.6159	1.5800e-003	0.0000	1.6554
Energy	0.0281	0.2533	0.1963	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	968.1008	968.1008	0.0293	0.0101	971.8349
Mobile	1.0663	3.7022	12.5310	0.0325	2.4785	0.0348	2.5133	0.6749	0.0326	0.7075	0.0000	2,970.2066	2,970.2066	0.1364	0.0000	2,973.6169
Waste						0.0000	0.0000		0.0000	0.0000	55.6317	0.0000	55.6317	3.2877	0.0000	137.8252
Water						0.0000	0.0000		0.0000	0.0000	9.4154	69.2888	78.7042	0.9695	0.0233	109.8941
Total	2.2254	3.9668	13.7153	0.0341	2.4785	0.0597	2.5382	0.6749	0.0574	0.7324	65.0471	4,009.2122	4,074.2593	4.4245	0.0334	4,194.8266

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	3.63	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	5/21/2022	5	100	
2	Site Preparation	Site Preparation	1/24/2022	5/4/2022	5	73	
3	Grading	Grading	2/7/2022	6/25/2022	5	100	
4	Building Construction	Building Construction	2/28/2022	11/18/2022	5	230	
5	Paving	Paving	4/21/2022	12/18/2022	5	172	
6	Architectural Coating	Architectural Coating	8/12/2022	12/30/2022	5	101	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.39

Residential Indoor: 190,912; Residential Outdoor: 63,637; Non-Residential Indoor: 171,323; Non-Residential Outdoor: 57,108; Striped Parking Area: 6,254 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

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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	175.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	156.00	46.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 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					0.0187	0.0000	0.0187	2.8300e-003	0.0000	2.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1320	1.2860	1.0297	1.9400e-003		0.0621	0.0621		0.0578	0.0578	0.0000	169.9511	169.9511	0.0477	0.0000	171.1446
Total	0.1320	1.2860	1.0297	1.9400e-003	0.0187	0.0621	0.0808	2.8300e-003	0.0578	0.0606	0.0000	169.9511	169.9511	0.0477	0.0000	171.1446

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3.2 Demolition - 2022

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	6.3000e-004	0.0256	5.9100e-003	7.0000e-005	1.4700e-003	1.0000e-004	1.5600e-003	4.0000e-004	9.0000e-005	4.9000e-004	0.0000	6.7189	6.7189	2.7000e-004	0.0000	6.7257
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	2.5000e-003	0.0230	6.0000e-005	5.9400e-003	5.0000e-005	5.9900e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.1408	5.1408	1.9000e-004	0.0000	5.1455
Total	3.5700e-003	0.0281	0.0289	1.3000e-004	7.4100e-003	1.5000e-004	7.5500e-003	1.9800e-003	1.3000e-004	2.1100e-003	0.0000	11.8597	11.8597	4.6000e-004	0.0000	11.8712

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					8.4200e-003	0.0000	8.4200e-003	1.2700e-003	0.0000	1.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0597	0.9709	1.1927	1.9400e-003		0.0464	0.0464		0.0456	0.0456	0.0000	169.9509	169.9509	0.0477	0.0000	171.1444
Total	0.0597	0.9709	1.1927	1.9400e-003	8.4200e-003	0.0464	0.0548	1.2700e-003	0.0456	0.0468	0.0000	169.9509	169.9509	0.0477	0.0000	171.1444

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3.2 Demolition - 2022

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	6.3000e-004	0.0256	5.9100e-003	7.0000e-005	1.4700e-003	1.0000e-004	1.5600e-003	4.0000e-004	9.0000e-005	4.9000e-004	0.0000	6.7189	6.7189	2.7000e-004	0.0000	6.7257
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	2.5000e-003	0.0230	6.0000e-005	5.9400e-003	5.0000e-005	5.9900e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.1408	5.1408	1.9000e-004	0.0000	5.1455
Total	3.5700e-003	0.0281	0.0289	1.3000e-004	7.4100e-003	1.5000e-004	7.5500e-003	1.9800e-003	1.3000e-004	2.1100e-003	0.0000	11.8597	11.8597	4.6000e-004	0.0000	11.8712

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					0.6594	0.0000	0.6594	0.3625	0.0000	0.3625	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1157	1.2076	0.7190	1.3900e-003		0.0589	0.0589		0.0542	0.0542	0.0000	122.0538	122.0538	0.0395	0.0000	123.0406
Total	0.1157	1.2076	0.7190	1.3900e-003	0.6594	0.0589	0.7183	0.3625	0.0542	0.4166	0.0000	122.0538	122.0538	0.0395	0.0000	123.0406

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3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5700e-003	2.1900e-003	0.0201	5.0000e-005	5.2000e-003	4.0000e-005	5.2400e-003	1.3800e-003	4.0000e-005	1.4200e-003	0.0000	4.5033	4.5033	1.6000e-004	0.0000	4.5075
Total	2.5700e-003	2.1900e-003	0.0201	5.0000e-005	5.2000e-003	4.0000e-005	5.2400e-003	1.3800e-003	4.0000e-005	1.4200e-003	0.0000	4.5033	4.5033	1.6000e-004	0.0000	4.5075

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					0.2967	0.0000	0.2967	0.1631	0.0000	0.1631	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0470	0.7835	0.8189	1.3900e-003		0.0390	0.0390		0.0383	0.0383	0.0000	122.0536	122.0536	0.0395	0.0000	123.0405
Total	0.0470	0.7835	0.8189	1.3900e-003	0.2967	0.0390	0.3357	0.1631	0.0383	0.2014	0.0000	122.0536	122.0536	0.0395	0.0000	123.0405

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3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5700e-003	2.1900e-003	0.0201	5.0000e-005	5.2000e-003	4.0000e-005	5.2400e-003	1.3800e-003	4.0000e-005	1.4200e-003	0.0000	4.5033	4.5033	1.6000e-004	0.0000	4.5075
Total	2.5700e-003	2.1900e-003	0.0201	5.0000e-005	5.2000e-003	4.0000e-005	5.2400e-003	1.3800e-003	4.0000e-005	1.4200e-003	0.0000	4.5033	4.5033	1.6000e-004	0.0000	4.5075

3.4 Grading - 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					0.3064	0.0000	0.3064	0.1661	0.0000	0.1661	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0974	1.0428	0.7636	1.4800e-003		0.0470	0.0470		0.0433	0.0433	0.0000	130.2738	130.2738	0.0421	0.0000	131.3272
Total	0.0974	1.0428	0.7636	1.4800e-003	0.3064	0.0470	0.3535	0.1661	0.0433	0.2094	0.0000	130.2738	130.2738	0.0421	0.0000	131.3272

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3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	2.5000e-003	0.0230	6.0000e-005	5.9400e-003	5.0000e-005	5.9900e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.1408	5.1408	1.9000e-004	0.0000	5.1455
Total	2.9400e-003	2.5000e-003	0.0230	6.0000e-005	5.9400e-003	5.0000e-005	5.9900e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.1408	5.1408	1.9000e-004	0.0000	5.1455

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					0.1379	0.0000	0.1379	0.0747	0.0000	0.0747	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0439	0.7730	0.9316	1.4800e-003		0.0391	0.0391		0.0387	0.0387	0.0000	130.2737	130.2737	0.0421	0.0000	131.3270
Total	0.0439	0.7730	0.9316	1.4800e-003	0.1379	0.0391	0.1770	0.0747	0.0387	0.1134	0.0000	130.2737	130.2737	0.0421	0.0000	131.3270

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3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	2.5000e-003	0.0230	6.0000e-005	5.9400e-003	5.0000e-005	5.9900e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.1408	5.1408	1.9000e-004	0.0000	5.1455
Total	2.9400e-003	2.5000e-003	0.0230	6.0000e-005	5.9400e-003	5.0000e-005	5.9900e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.1408	5.1408	1.9000e-004	0.0000	5.1455

3.5 Building Construction - 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					
Off-Road	0.1621	1.4835	1.5545	2.5600e-003		0.0769	0.0769		0.0723	0.0723	0.0000	220.1390	220.1390	0.0527	0.0000	221.4575
Total	0.1621	1.4835	1.5545	2.5600e-003		0.0769	0.0769		0.0723	0.0723	0.0000	220.1390	220.1390	0.0527	0.0000	221.4575

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3.5 Building Construction - 2022

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	0.0143	0.5063	0.1307	1.1700e-003	0.0286	1.5200e-003	0.0301	8.2600e-003	1.4600e-003	9.7100e-003	0.0000	112.1806	112.1806	4.3600e-003	0.0000	112.2896
Worker	0.0581	0.0494	0.4540	1.1300e-003	0.1173	9.6000e-004	0.1183	0.0312	8.8000e-004	0.0321	0.0000	101.5822	101.5822	3.7200e-003	0.0000	101.6752
Total	0.0723	0.5557	0.5847	2.3000e-003	0.1459	2.4800e-003	0.1484	0.0395	2.3400e-003	0.0418	0.0000	213.7628	213.7628	8.0800e-003	0.0000	213.9648

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	0.0736	1.3689	1.6947	2.5600e-003		0.0860	0.0860		0.0853	0.0853	0.0000	220.1387	220.1387	0.0527	0.0000	221.4572
Total	0.0736	1.3689	1.6947	2.5600e-003		0.0860	0.0860		0.0853	0.0853	0.0000	220.1387	220.1387	0.0527	0.0000	221.4572

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3.5 Building Construction - 2022

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	0.0143	0.5063	0.1307	1.1700e-003	0.0286	1.5200e-003	0.0301	8.2600e-003	1.4600e-003	9.7100e-003	0.0000	112.1806	112.1806	4.3600e-003	0.0000	112.2896
Worker	0.0581	0.0494	0.4540	1.1300e-003	0.1173	9.6000e-004	0.1183	0.0312	8.8000e-004	0.0321	0.0000	101.5822	101.5822	3.7200e-003	0.0000	101.6752
Total	0.0723	0.5557	0.5847	2.3000e-003	0.1459	2.4800e-003	0.1484	0.0395	2.3400e-003	0.0418	0.0000	213.7628	213.7628	8.0800e-003	0.0000	213.9648

3.6 Paving - 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					
Off-Road	0.0948	0.9567	1.2539	1.9600e-003		0.0488	0.0488		0.0449	0.0449	0.0000	172.2370	172.2370	0.0557	0.0000	173.6296
Paving	3.1300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0980	0.9567	1.2539	1.9600e-003		0.0488	0.0488		0.0449	0.0449	0.0000	172.2370	172.2370	0.0557	0.0000	173.6296

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3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0500e-003	4.3000e-003	0.0395	1.0000e-004	0.0102	8.0000e-005	0.0103	2.7200e-003	8.0000e-005	2.7900e-003	0.0000	8.8422	8.8422	3.2000e-004	0.0000	8.8503
Total	5.0500e-003	4.3000e-003	0.0395	1.0000e-004	0.0102	8.0000e-005	0.0103	2.7200e-003	8.0000e-005	2.7900e-003	0.0000	8.8422	8.8422	3.2000e-004	0.0000	8.8503

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	0.0715	0.9641	1.3707	1.9600e-003		0.0506	0.0506		0.0487	0.0487	0.0000	172.2368	172.2368	0.0557	0.0000	173.6294
Paving	3.1300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0747	0.9641	1.3707	1.9600e-003		0.0506	0.0506		0.0487	0.0487	0.0000	172.2368	172.2368	0.0557	0.0000	173.6294

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3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0500e-003	4.3000e-003	0.0395	1.0000e-004	0.0102	8.0000e-005	0.0103	2.7200e-003	8.0000e-005	2.7900e-003	0.0000	8.8422	8.8422	3.2000e-004	0.0000	8.8503
Total	5.0500e-003	4.3000e-003	0.0395	1.0000e-004	0.0102	8.0000e-005	0.0103	2.7200e-003	8.0000e-005	2.7900e-003	0.0000	8.8422	8.8422	3.2000e-004	0.0000	8.8503

3.7 Architectural Coating - 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					
Archit. Coating	1.4057					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.0711	0.0916	1.5000e-004		4.1300e-003	4.1300e-003		4.1300e-003	4.1300e-003	0.0000	12.8939	12.8939	8.4000e-004	0.0000	12.9149
Total	1.4161	0.0711	0.0916	1.5000e-004		4.1300e-003	4.1300e-003		4.1300e-003	4.1300e-003	0.0000	12.8939	12.8939	8.4000e-004	0.0000	12.9149

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3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1300e-003	5.2100e-003	0.0480	1.2000e-004	0.0124	1.0000e-004	0.0125	3.3000e-003	9.0000e-005	3.3900e-003	0.0000	10.7306	10.7306	3.9000e-004	0.0000	10.7404
Total	6.1300e-003	5.2100e-003	0.0480	1.2000e-004	0.0124	1.0000e-004	0.0125	3.3000e-003	9.0000e-005	3.3900e-003	0.0000	10.7306	10.7306	3.9000e-004	0.0000	10.7404

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	1.4057					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-003	0.0685	0.0925	1.5000e-004		4.8000e-003	4.8000e-003		4.8000e-003	4.8000e-003	0.0000	12.8939	12.8939	8.4000e-004	0.0000	12.9149
Total	1.4087	0.0685	0.0925	1.5000e-004		4.8000e-003	4.8000e-003		4.8000e-003	4.8000e-003	0.0000	12.8939	12.8939	8.4000e-004	0.0000	12.9149

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3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1300e-003	5.2100e-003	0.0480	1.2000e-004	0.0124	1.0000e-004	0.0125	3.3000e-003	9.0000e-005	3.3900e-003	0.0000	10.7306	10.7306	3.9000e-004	0.0000	10.7404
Total	6.1300e-003	5.2100e-003	0.0480	1.2000e-004	0.0124	1.0000e-004	0.0125	3.3000e-003	9.0000e-005	3.3900e-003	0.0000	10.7306	10.7306	3.9000e-004	0.0000	10.7404

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.0663	3.7022	12.5310	0.0325	2.4785	0.0348	2.5133	0.6749	0.0326	0.7075	0.0000	2,970.2066	2,970.2066	0.1364	0.0000	2,973.6169
Unmitigated	1.0663	3.7022	12.5310	0.0325	2.4785	0.0348	2.5133	0.6749	0.0326	0.7075	0.0000	2,970.2066	2,970.2066	0.1364	0.0000	2,973.6169

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	164.75	179.00	151.75	475,141	475,141
Apartments Mid Rise	465.50	447.30	410.20	1,310,804	1,310,804
General Light Industry	22.44	4.25	2.19	49,489	49,489
Health Club	1,112.38	704.99	902.94	1,769,576	1,769,576
Parking Lot	0.00	0.00	0.00		
Research & Development	507.93	119.00	69.52	976,779	976,779
University/College (4Yr)	901.17	685.10	0.00	1,872,918	1,872,918
Total	3,174.17	2,139.64	1,536.60	6,454,706	6,454,706

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Apartments Mid Rise	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Apartments Mid Rise	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
General Light Industry	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Health Club	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Parking Lot	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Research & Development	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
University/College (4Yr)	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	689.6515	689.6515	0.0240	4.9600e-003	691.7309
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	689.6515	689.6515	0.0240	4.9600e-003	691.7309
NaturalGas Mitigated	0.0281	0.2533	0.1963	1.5300e-003			0.0194	0.0194		0.0194	0.0000	278.4493	278.4493	5.3400e-003	5.1000e-003	280.1040
NaturalGas Unmitigated	0.0281	0.2533	0.1963	1.5300e-003			0.0194	0.0194		0.0194	0.0000	278.4493	278.4493	5.3400e-003	5.1000e-003	280.1040

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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					
Apartments Low Rise	254971	1.3700e-003	0.0118	5.0000e-003	7.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	13.6062	13.6062	2.6000e-004	2.5000e-004	13.6871
Apartments Mid Rise	604762	3.2600e-003	0.0279	0.0119	1.8000e-004		2.2500e-003	2.2500e-003		2.2500e-003	2.2500e-003	0.0000	32.2724	32.2724	6.2000e-004	5.9000e-004	32.4642
General Light Industry	84860	4.6000e-004	4.1600e-003	3.4900e-003	2.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.5285	4.5285	9.0000e-005	8.0000e-005	4.5554
Health Club	891219	4.8100e-003	0.0437	0.0367	2.6000e-004		3.3200e-003	3.3200e-003		3.3200e-003	3.3200e-003	0.0000	47.5588	47.5588	9.1000e-004	8.7000e-004	47.8415
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	1.65223e+006	8.9100e-003	0.0810	0.0680	4.9000e-004		6.1600e-003	6.1600e-003		6.1600e-003	6.1600e-003	0.0000	88.1692	88.1692	1.6900e-003	1.6200e-003	88.6931
University/College (4Yr)	1.7299e+006	9.3300e-003	0.0848	0.0712	5.1000e-004		6.4400e-003	6.4400e-003		6.4400e-003	6.4400e-003	0.0000	92.3143	92.3143	1.7700e-003	1.6900e-003	92.8628
Total		0.0281	0.2533	0.1963	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	278.4493	278.4493	5.3400e-003	5.1000e-003	280.1040

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5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	254971	1.3700e-003	0.0118	5.0000e-003	7.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	13.6062	13.6062	2.6000e-004	2.5000e-004	13.6871
Apartments Mid Rise	604762	3.2600e-003	0.0279	0.0119	1.8000e-004		2.2500e-003	2.2500e-003		2.2500e-003	2.2500e-003	0.0000	32.2724	32.2724	6.2000e-004	5.9000e-004	32.4642
General Light Industry	84860	4.6000e-004	4.1600e-003	3.4900e-003	2.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.5285	4.5285	9.0000e-005	8.0000e-005	4.5554
Health Club	891219	4.8100e-003	0.0437	0.0367	2.6000e-004		3.3200e-003	3.3200e-003		3.3200e-003	3.3200e-003	0.0000	47.5588	47.5588	9.1000e-004	8.7000e-004	47.8415
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	1.65223e+006	8.9100e-003	0.0810	0.0680	4.9000e-004		6.1600e-003	6.1600e-003		6.1600e-003	6.1600e-003	0.0000	88.1692	88.1692	1.6900e-003	1.6200e-003	88.6931
University/College (4Yr)	1.7299e+006	9.3300e-003	0.0848	0.0712	5.1000e-004		6.4400e-003	6.4400e-003		6.4400e-003	6.4400e-003	0.0000	92.3143	92.3143	1.7700e-003	1.6900e-003	92.8628
Total		0.0281	0.2533	0.1963	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	278.4493	278.4493	5.3400e-003	5.1000e-003	280.1040

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	108720	41.1017	1.4300e-003	3.0000e-004	41.2256
Apartments Mid Rise	288985	109.2509	3.8000e-003	7.9000e-004	109.5803
General Light Industry	26571	10.0452	3.5000e-004	7.0000e-005	10.0755
Health Club	279055	105.4970	3.6700e-003	7.6000e-004	105.8151
Parking Lot	36483.1	13.7925	4.8000e-004	1.0000e-004	13.8341
Research & Development	517339	195.5805	6.8100e-003	1.4100e-003	196.1703
University/College (4Yr)	567076	214.3836	7.4600e-003	1.5400e-003	215.0300
Total		689.6515	0.0240	4.9700e-003	691.7309

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	108720	41.1017	1.4300e-003	3.0000e-004	41.2256
Apartments Mid Rise	288985	109.2509	3.8000e-003	7.9000e-004	109.5803
General Light Industry	26571	10.0452	3.5000e-004	7.0000e-005	10.0755
Health Club	279055	105.4970	3.6700e-003	7.6000e-004	105.8151
Parking Lot	36483.1	13.7925	4.8000e-004	1.0000e-004	13.8341
Research & Development	517339	195.5805	6.8100e-003	1.4100e-003	196.1703
University/College (4Yr)	567076	214.3836	7.4600e-003	1.5400e-003	215.0300
Total		689.6515	0.0240	4.9700e-003	691.7309

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.1310	0.0114	0.9880	5.0000e-005		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	1.6159	1.6159	1.5800e-003	0.0000	1.6554
Unmitigated	1.2149	0.0114	0.9880	5.0000e-005		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	1.6159	1.6159	1.5800e-003	0.0000	1.6554

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	0.1406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0303	0.0114	0.9880	5.0000e-005		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	1.6159	1.6159	1.5800e-003	0.0000	1.6554
Total	1.2149	0.0114	0.9880	5.0000e-005		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	1.6159	1.6159	1.5800e-003	0.0000	1.6554

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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	0.0567					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0303	0.0114	0.9880	5.0000e-005		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	1.6159	1.6159	1.5800e-003	0.0000	1.6554
Total	1.1310	0.0114	0.9880	5.0000e-005		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	1.6159	1.6159	1.5800e-003	0.0000	1.6554

7.0 Water Detail

7.1 Mitigation Measures Water

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	78.7042	0.9695	0.0233	109.8941
Unmitigated	78.7042	0.9695	0.0233	109.8941

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Annual

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	5.2075	0.0532	1.2900e-003	6.9221
Apartments Mid Rise	4.56078 / 2.87528	14.5811	0.1491	3.6000e-003	19.3818
General Light Industry	0.494875 / 0	1.1693	0.0162	3.9000e-004	1.6890
Health Club	1.3319 / 0.816328	4.2273	0.0435	1.0500e-003	5.6291
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	20.5331 / 0	48.5175	0.6705	0.0161	70.0789
University/College (4Yr)	1.12836 / 1.76487	5.0014	0.0369	9.0000e-004	6.1933
Total		78.7042	0.9695	0.0233	109.8941

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	5.2075	0.0532	1.2900e-003	6.9221
Apartments Mid Rise	4.56078 / 2.87528	14.5811	0.1491	3.6000e-003	19.3818
General Light Industry	0.494875 / 0	1.1693	0.0162	3.9000e-004	1.6890
Health Club	1.3319 / 0.816328	4.2273	0.0435	1.0500e-003	5.6291
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	20.5331 / 0	48.5175	0.6705	0.0161	70.0789
University/College (4Yr)	1.12836 / 1.76487	5.0014	0.0369	9.0000e-004	6.1933
Total		78.7042	0.9695	0.0233	109.8941

8.0 Waste Detail

8.1 Mitigation Measures Waste

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	55.6317	3.2877	0.0000	137.8252
Unmitigated	55.6317	3.2877	0.0000	137.8252

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	32.2	6.5363	0.3863	0.0000	16.1934
General Light Industry	2.65	0.5379	0.0318	0.0000	1.3327
Health Club	128.36	26.0559	1.5399	0.0000	64.5524
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	3.17	0.6435	0.0380	0.0000	1.5942
University/College (4Yr)	96.18	19.5237	1.1538	0.0000	48.3691
Total		55.6317	3.2877	0.0000	137.8252

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Annual

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	32.2	6.5363	0.3863	0.0000	16.1934
General Light Industry	2.65	0.5379	0.0318	0.0000	1.3327
Health Club	128.36	26.0559	1.5399	0.0000	64.5524
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	3.17	0.6435	0.0380	0.0000	1.5942
University/College (4Yr)	96.18	19.5237	1.1538	0.0000	48.3691
Total		55.6317	3.2877	0.0000	137.8252

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Annual

Boilers

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

Equipment Type	Number
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11.0 Vegetation

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

UCSC - 2020 LRDP - Construction Only
Santa Cruz County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	62.63	1000sqft	1.44	62,631.83	0
University/College (4Yr)	527.00	Student	2.22	71,691.00	0
General Light Industry	3.22	1000sqft	0.07	3,216.83	0
Parking Lot	2.39	Acre	2.39	104,237.50	0
Health Club	33.78	1000sqft	0.78	33,783.89	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	24,444.40	31
Apartments Mid Rise	70.00	Dwelling Unit	1.84	69,833.30	473

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	4			Operational Year	2023
Utility Company	Modesto Irrigation District				
CO2 Intensity (lb/MW hr)	833.46	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

Project Characteristics - UCSC Electricity Emission Factors for 2022 reflect State averages

Land Use - Values specified in Project Description. Assume Construction for 1 year = 1/18 of total construction (2022-2039).

Construction Phase - Condensed to 1 year construction schedule (2022).

Off-road Equipment -

Off-road Equipment - Equipment associated with building construction increased to reflect condensed schedule.

Off-road Equipment -

Trips and VMT -

On-road Fugitive Dust -

Demolition -

Grading -

Architectural Coating -

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied. (EMFAC2017 2022)

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied. (EMFAC2017 2022)

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied. (EMFAC2017 2022)

Woodstoves -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation - Mitigation: approximatedly 80% of equipment will meet Tier 3 Final standards.

Area Mitigation - Mitigation: Use no- or low-solids content (i.e., no- or low-VOC) architectural coatings with a maximum VOC content of 50 g/L.

Energy Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	85,662.00	57,108.00

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

tblArchitecturalCoating	ConstArea_Nonresidential_Interior	256,985.00	171,323.00
tblAreaCoating	Area_Nonresidential_Exterior	85662	57108
tblAreaCoating	Area_Nonresidential_Interior	256985	171323
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	150	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	50
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	101.00
tblConstructionPhase	NumDays	300.00	230.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	30.00	100.00
tblConstructionPhase	NumDays	20.00	172.00
tblConstructionPhase	NumDays	10.00	73.00
tblGrading	AcresOfGrading	50.00	10.00
tblLandUse	LandUseSquareFeet	62,630.00	62,631.83
tblLandUse	LandUseSquareFeet	96,861.27	71,691.00
tblLandUse	LandUseSquareFeet	3,220.00	3,216.83
tblLandUse	LandUseSquareFeet	104,108.40	104,237.50
tblLandUse	LandUseSquareFeet	33,780.00	33,783.89
tblLandUse	LandUseSquareFeet	25,000.00	24,444.40
tblLandUse	LandUseSquareFeet	70,000.00	69,833.30
tblLandUse	Population	72.00	31.00
tblLandUse	Population	200.00	473.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblSolidWaste	SolidWasteGenerationRate	3.99	2.65
tblSolidWaste	SolidWasteGenerationRate	192.55	128.36
tblSolidWaste	SolidWasteGenerationRate	4.76	3.17
tblTripsAndVMT	VendorTripNumber	55.00	46.00
tblTripsAndVMT	WorkerTripNumber	178.00	156.00
tblTripsAndVMT	WorkerTripNumber	36.00	31.00
tblWater	IndoorWaterUseRate	744,625.00	494,875.00
tblWater	IndoorWaterUseRate	1,997,855.41	1,331,903.60
tblWater	IndoorWaterUseRate	30,794,791.91	20,533,139.24
tblWater	OutdoorWaterUseRate	1,224,492.02	816,328.02

2.0 Emissions Summary

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.7332	0.0910	7.9036	4.2000e-004		0.0436	0.0436		0.0436	0.0436	0.0000	14.2501	14.2501	0.0139	0.0000	14.5984
Energy	0.1542	1.3877	1.0757	8.4100e-003		0.1065	0.1065		0.1065	0.1065		1,681.8512	1,681.8512	0.0322	0.0308	1,691.8456
Mobile	7.0723	21.7074	77.2331	0.2090	16.1097	0.2148	16.3246	4.3656	0.2010	4.5666		21,043.2841	21,043.2841	0.9351		21,066.6607
Total	13.9596	23.1861	86.2123	0.2179	16.1097	0.3650	16.4747	4.3656	0.3511	4.7168	0.0000	22,739.3854	22,739.3854	0.9812	0.0308	22,773.1047

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.2735	0.0910	7.9036	4.2000e-004		0.0436	0.0436		0.0436	0.0436	0.0000	14.2501	14.2501	0.0139	0.0000	14.5984
Energy	0.1542	1.3877	1.0757	8.4100e-003		0.1065	0.1065		0.1065	0.1065		1,681.8512	1,681.8512	0.0322	0.0308	1,691.8456
Mobile	7.0723	21.7074	77.2331	0.2090	16.1097	0.2148	16.3246	4.3656	0.2010	4.5666		21,043.2841	21,043.2841	0.9351		21,066.6607
Total	13.5000	23.1861	86.2123	0.2179	16.1097	0.3650	16.4747	4.3656	0.3511	4.7168	0.0000	22,739.3854	22,739.3854	0.9812	0.0308	22,773.1047

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	3.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	5/21/2022	5	100	
2	Site Preparation	Site Preparation	1/24/2022	5/4/2022	5	73	
3	Grading	Grading	2/7/2022	6/25/2022	5	100	
4	Building Construction	Building Construction	2/28/2022	11/18/2022	5	230	
5	Paving	Paving	4/21/2022	12/18/2022	5	172	
6	Architectural Coating	Architectural Coating	8/12/2022	12/30/2022	5	101	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.39

Residential Indoor: 190,912; Residential Outdoor: 63,637; Non-Residential Indoor: 171,323; Non-Residential Outdoor: 57,108; Striped Parking Area: 6,254 (Architectural Coating – sqft)

OffRoad Equipment

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

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

Trips and VMT

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

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	175.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	156.00	46.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 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	lb/day										lb/day					
Fugitive Dust					0.3741	0.0000	0.3741	0.0566	0.0000	0.0566			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	2.6392	25.7194	20.5941	0.0388	0.3741	1.2427	1.6168	0.0566	1.1553	1.2119		3,746.7812	3,746.7812	1.0524		3,773.0920

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0124	0.5031	0.1158	1.3900e-003	0.0303	1.9000e-003	0.0322	8.2800e-003	1.8100e-003	0.0101		148.9811	148.9811	5.9200e-003		149.1291
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577
Total	0.0705	0.5469	0.5907	2.5800e-003	0.1535	2.8700e-003	0.1564	0.0410	2.7100e-003	0.0437		267.8310	267.8310	0.0102		268.0868

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1683	0.0000	0.1683	0.0255	0.0000	0.0255			0.0000			0.0000
Off-Road	1.1946	19.4185	23.8542	0.0388		0.9280	0.9280		0.9115	0.9115	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	1.1946	19.4185	23.8542	0.0388	0.1683	0.9280	1.0963	0.0255	0.9115	0.9370	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0124	0.5031	0.1158	1.3900e-003	0.0303	1.9000e-003	0.0322	8.2800e-003	1.8100e-003	0.0101		148.9811	148.9811	5.9200e-003		149.1291
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577
Total	0.0705	0.5469	0.5907	2.5800e-003	0.1535	2.8700e-003	0.1564	0.0410	2.7100e-003	0.0437		267.8310	267.8310	0.0102		268.0868

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	18.0663	1.6126	19.6788	9.9307	1.4836	11.4143		3,686.0619	3,686.0619	1.1922		3,715.8655

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3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0697	0.0525	0.5698	1.4300e-003	0.1479	1.1600e-003	0.1490	0.0392	1.0700e-003	0.0403		142.6199	142.6199	5.1800e-003		142.7493
Total	0.0697	0.0525	0.5698	1.4300e-003	0.1479	1.1600e-003	0.1490	0.0392	1.0700e-003	0.0403		142.6199	142.6199	5.1800e-003		142.7493

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	1.2869	21.4651	22.4346	0.0380		1.0683	1.0683		1.0483	1.0483	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	1.2869	21.4651	22.4346	0.0380	8.1298	1.0683	9.1981	4.4688	1.0483	5.5172	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0697	0.0525	0.5698	1.4300e-003	0.1479	1.1600e-003	0.1490	0.0392	1.0700e-003	0.0403		142.6199	142.6199	5.1800e-003		142.7493
Total	0.0697	0.0525	0.5698	1.4300e-003	0.1479	1.1600e-003	0.1490	0.0392	1.0700e-003	0.0403		142.6199	142.6199	5.1800e-003		142.7493

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					6.1281	0.0000	6.1281	3.3217	0.0000	3.3217			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	6.1281	0.9409	7.0690	3.3217	0.8656	4.1873		2,872.0464	2,872.0464	0.9289		2,895.2684

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577
Total	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7577	0.0000	2.7577	1.4948	0.0000	1.4948			0.0000			0.0000
Off-Road	0.8785	15.4598	18.6324	0.0297		0.7828	0.7828		0.7733	0.7733	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	0.8785	15.4598	18.6324	0.0297	2.7577	0.7828	3.5405	1.4948	0.7733	2.2680	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577
Total	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577

3.5 Building Construction - 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	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1461	5.2728	1.2935	0.0124	0.3101	0.0157	0.3258	0.0892	0.0150	0.1042		1,313.4343	1,313.4343	0.0490		1,314.6602
Worker	0.6037	0.4554	4.9386	0.0124	1.2815	0.0101	1.2916	0.3399	9.3100e-003	0.3492		1,236.0388	1,236.0388	0.0449		1,237.1604
Total	0.7499	5.7282	6.2320	0.0248	1.5916	0.0258	1.6174	0.4291	0.0243	0.4534		2,549.4731	2,549.4731	0.0939		2,551.8205

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7746	14.4092	17.8385	0.0269		0.9051	0.9051		0.8975	0.8975	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	0.7746	14.4092	17.8385	0.0269		0.9051	0.9051		0.8975	0.8975	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1461	5.2728	1.2935	0.0124	0.3101	0.0157	0.3258	0.0892	0.0150	0.1042		1,313.4343	1,313.4343	0.0490		1,314.6602
Worker	0.6037	0.4554	4.9386	0.0124	1.2815	0.0101	1.2916	0.3399	9.3100e-003	0.3492		1,236.0388	1,236.0388	0.0449		1,237.1604
Total	0.7499	5.7282	6.2320	0.0248	1.5916	0.0258	1.6174	0.4291	0.0243	0.4534		2,549.4731	2,549.4731	0.0939		2,551.8205

3.6 Paving - 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	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0364					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1392	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577
Total	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8319	11.2101	15.9381	0.0228		0.5886	0.5886		0.5659	0.5659	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0364					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8683	11.2101	15.9381	0.0228		0.5886	0.5886		0.5659	0.5659	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577
Total	0.0581	0.0438	0.4749	1.1900e-003	0.1232	9.7000e-004	0.1242	0.0327	9.0000e-004	0.0336		118.8499	118.8499	4.3100e-003		118.9577

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	27.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	28.0410	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

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3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1200	0.0905	0.9814	2.4700e-003	0.2547	2.0100e-003	0.2567	0.0676	1.8500e-003	0.0694		245.6231	245.6231	8.9200e-003		245.8460
Total	0.1200	0.0905	0.9814	2.4700e-003	0.2547	2.0100e-003	0.2567	0.0676	1.8500e-003	0.0694		245.6231	245.6231	8.9200e-003		245.8460

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0183		281.9062
Total	27.8959	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0183		281.9062

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3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1200	0.0905	0.9814	2.4700e-003	0.2547	2.0100e-003	0.2567	0.0676	1.8500e-003	0.0694		245.6231	245.6231	8.9200e-003		245.8460
Total	0.1200	0.0905	0.9814	2.4700e-003	0.2547	2.0100e-003	0.2567	0.0676	1.8500e-003	0.0694		245.6231	245.6231	8.9200e-003		245.8460

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.0723	21.7074	77.2331	0.2090	16.1097	0.2148	16.3246	4.3656	0.2010	4.5666		21,043.2841	21,043.2841	0.9351		21,066.6607
Unmitigated	7.0723	21.7074	77.2331	0.2090	16.1097	0.2148	16.3246	4.3656	0.2010	4.5666		21,043.2841	21,043.2841	0.9351		21,066.6607

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	164.75	179.00	151.75	475,141	475,141
Apartments Mid Rise	465.50	447.30	410.20	1,310,804	1,310,804
General Light Industry	22.44	4.25	2.19	49,489	49,489
Health Club	1,112.38	704.99	902.94	1,769,576	1,769,576
Parking Lot	0.00	0.00	0.00		
Research & Development	507.93	119.00	69.52	976,779	976,779
University/College (4Yr)	901.17	685.10	0.00	1,872,918	1,872,918
Total	3,174.17	2,139.64	1,536.60	6,454,706	6,454,706

4.3 Trip Type Information

UCSC - 2020 LRDP - Construction Only - Santa Cruz County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Apartments Mid Rise	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Apartments Mid Rise	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
General Light Industry	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Health Club	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Parking Lot	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
Research & Development	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058
University/College (4Yr)	0.575986	0.028505	0.206594	0.118540	0.020331	0.004884	0.021052	0.012380	0.001237	0.002682	0.005754	0.000999	0.001058

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1542	1.3877	1.0757	8.4100e-003		0.1065	0.1065		0.1065	0.1065		1,681.8512	1,681.8512	0.0322	0.0308	1,691.8456
NaturalGas Unmitigated	0.1542	1.3877	1.0757	8.4100e-003		0.1065	0.1065		0.1065	0.1065		1,681.8512	1,681.8512	0.0322	0.0308	1,691.8456

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	698.551	7.5300e-003	0.0644	0.0274	4.1000e-004		5.2000e-003	5.2000e-003		5.2000e-003	5.2000e-003		82.1825	82.1825	1.5800e-003	1.5100e-003	82.6709
Apartments Mid Rise	1656.88	0.0179	0.1527	0.0650	9.7000e-004		0.0124	0.0124		0.0124	0.0124		194.9272	194.9272	3.7400e-003	3.5700e-003	196.0855
General Light Industry	232.493	2.5100e-003	0.0228	0.0192	1.4000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003		27.3521	27.3521	5.2000e-004	5.0000e-004	27.5147
Health Club	2441.7	0.0263	0.2394	0.2011	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.2584	287.2584	5.5100e-003	5.2700e-003	288.9654
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	4526.65	0.0488	0.4438	0.3728	2.6600e-003		0.0337	0.0337		0.0337	0.0337		532.5472	532.5472	0.0102	9.7600e-003	535.7119
University/College (4Yr)	4739.46	0.0511	0.4647	0.3903	2.7900e-003		0.0353	0.0353		0.0353	0.0353		557.5838	557.5838	0.0107	0.0102	560.8973
Total		0.1542	1.3877	1.0757	8.4100e-003		0.1065	0.1065		0.1065	0.1065		1,681.8512	1,681.8512	0.0323	0.0308	1,691.8456

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0.698551	7.5300e-003	0.0644	0.0274	4.1000e-004		5.2000e-003	5.2000e-003		5.2000e-003	5.2000e-003		82.1825	82.1825	1.5800e-003	1.5100e-003	82.6709
Apartments Mid Rise	1.65688	0.0179	0.1527	0.0650	9.7000e-004		0.0124	0.0124		0.0124	0.0124		194.9272	194.9272	3.7400e-003	3.5700e-003	196.0855
General Light Industry	0.232493	2.5100e-003	0.0228	0.0192	1.4000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003		27.3521	27.3521	5.2000e-004	5.0000e-004	27.5147
Health Club	2.4417	0.0263	0.2394	0.2011	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.2584	287.2584	5.5100e-003	5.2700e-003	288.9654
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	4.52665	0.0488	0.4438	0.3728	2.6600e-003		0.0337	0.0337		0.0337	0.0337		532.5472	532.5472	0.0102	9.7600e-003	535.7119
University/College (4Yr)	4.73946	0.0511	0.4647	0.3903	2.7900e-003		0.0353	0.0353		0.0353	0.0353		557.5838	557.5838	0.0107	0.0102	560.8973
Total		0.1542	1.3877	1.0757	8.4100e-003		0.1065	0.1065		0.1065	0.1065		1,681.8512	1,681.8512	0.0323	0.0308	1,691.8456

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.2735	0.0910	7.9036	4.2000e-004		0.0436	0.0436		0.0436	0.0436	0.0000	14.2501	14.2501	0.0139	0.0000	14.5984
Unmitigated	6.7332	0.0910	7.9036	4.2000e-004		0.0436	0.0436		0.0436	0.0436	0.0000	14.2501	14.2501	0.0139	0.0000	14.5984

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.7208					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2421	0.0910	7.9036	4.2000e-004		0.0436	0.0436		0.0436	0.0436		14.2501	14.2501	0.0139		14.5984
Total	6.7332	0.0910	7.9036	4.2000e-004		0.0436	0.0436		0.0436	0.0436	0.0000	14.2501	14.2501	0.0139	0.0000	14.5984

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3106					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.7208					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2421	0.0910	7.9036	4.2000e-004		0.0436	0.0436		0.0436	0.0436		14.2501	14.2501	0.0139		14.5984
Total	6.2735	0.0910	7.9036	4.2000e-004		0.0436	0.0436		0.0436	0.0436	0.0000	14.2501	14.2501	0.0139	0.0000	14.5984

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

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Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	1,127.37	1000sqft	25.88	1,127,373.00	0
University/College (4Yr)	9,482.00	Student	40.01	1,290,438.00	0
General Light Industry	57.90	1000sqft	1.33	57,903.00	0
Parking Lot	43.07	Acre	43.07	1,876,275.00	0
Health Club	608.11	1000sqft	13.96	608,110.00	0
Apartments Low Rise	440.00	Dwelling Unit	27.50	660,000.00	550
Apartments Mid Rise	1,257.00	Dwelling Unit	33.08	1,885,000.00	8500

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	4			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	77.8	CH4 Intensity (lb/MWhr)	0.005	N2O Intensity (lb/MWhr)	0.001

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - UCSC Electricity Emission Factors for 2040 reflect State averages.

Land Use - Values specified in Project Description

Construction Phase - This file is for operational emissions, so construction phases are removed.

Off-road Equipment -

Off-road Equipment - This file is for operational emissions, so construction phases are removed.

Off-road Equipment -

Trips and VMT -

On-road Fugitive Dust -

Demolition -

Architectural Coating -

Vehicle Trips - Adjusted trip rates so that avg annual VMT matches Traffic Study.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Woodstoves -

Consumer Products -

Area Coating -

Energy Use - Energy intensity rates adjusted 2019 Title 24 standards.

Water And Wastewater -

Solid Waste -

Sequestration - Using Pine as substitute for redwood trees. 22 trees/acre.

Construction Off-road Equipment Mitigation -

Area Mitigation - Zero-VOC paints and coatings (5 g/L), low-VOC cleaning supplies. 100% electric lawn and garden equipment.

Energy Mitigation -

Fleet Mix -

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Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1,541,912.00	1,027,942.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	4,625,736.00	3,083,825.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,717,875.00	1,145,475.00
tblArchitecturalCoating	ConstArea_Residential_Interior	5,153,625.00	3,436,425.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	5
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	5
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	150	5
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	5
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	5
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	3,100.00	1.00
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblEnergyUse	T24E	365.68	244.86
tblEnergyUse	T24E	332.81	222.85
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	2.73	2.59
tblEnergyUse	T24NG	7,043.85	4,716.56

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tblEnergyUse	T24NG	5,484.45	3,672.39
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	20.83	19.79
tblGrading	AcresOfGrading	0.00	775.00
tblLandUse	LandUseSquareFeet	1,127,370.00	1,127,373.00
tblLandUse	LandUseSquareFeet	1,742,767.59	1,290,438.00
tblLandUse	LandUseSquareFeet	57,900.00	57,903.00
tblLandUse	LandUseSquareFeet	1,876,129.20	1,876,275.00
tblLandUse	LandUseSquareFeet	440,000.00	660,000.00
tblLandUse	LandUseSquareFeet	1,257,000.00	1,885,000.00
tblLandUse	Population	1,258.00	550.00
tblLandUse	Population	3,595.00	8,500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.005
tblProjectCharacteristics	CO2IntensityFactor	641.35	77.8
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.001
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSequestration	NumberOfNewTrees	0.00	-3,386.00
tblSolidWaste	SolidWasteGenerationRate	71.80	47.86
tblSolidWaste	SolidWasteGenerationRate	3,466.23	2,310.84
tblSolidWaste	SolidWasteGenerationRate	85.67	57.11

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tblTripsAndVMT	VendorTripNumber	994.00	826.00
tblTripsAndVMT	WorkerTripNumber	3,192.00	2,798.00
tblTripsAndVMT	WorkerTripNumber	638.00	560.00
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tblVehicleEF	HHD	1.31	54.39
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tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
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tblVehicleEF	HHD	0.34	3.69
tblVehicleEF	HHD	5.4000e-005	1.8000e-005
tblVehicleEF	HHD	0.08	0.02
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tblVehicleEF	HHD	2.8760e-003	0.02
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tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.9600e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	4.1000e-005	1.4000e-005
tblVehicleEF	HHD	4.6400e-003	7.5000e-005
tblVehicleEF	HHD	0.37	3.39
tblVehicleEF	HHD	2.1000e-005	7.0000e-006
tblVehicleEF	HHD	0.08	0.02

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tblVehicleEF	HHD	6.7000e-004	4.2700e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7900e-004	1.0000e-006
tblVehicleEF	HHD	4.1000e-005	1.4000e-005
tblVehicleEF	HHD	4.6400e-003	7.5000e-005
tblVehicleEF	HHD	0.42	3.87
tblVehicleEF	HHD	2.1000e-005	7.0000e-006
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	6.7000e-004	4.2700e-004
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	LDA	1.6390e-003	7.5900e-004
tblVehicleEF	LDA	9.0100e-004	0.02
tblVehicleEF	LDA	0.29	0.39
tblVehicleEF	LDA	0.44	1.56
tblVehicleEF	LDA	168.86	206.82
tblVehicleEF	LDA	36.04	41.63
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.12
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	8.1950e-003	0.06
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	7.7480e-003	0.06

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tblVehicleEF	LDA	4.1300e-003	2.3880e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.01	0.08
tblVehicleEF	LDA	1.6890e-003	1.8340e-003
tblVehicleEF	LDA	3.6700e-004	3.6900e-004
tblVehicleEF	LDA	8.1950e-003	0.06
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	7.7480e-003	0.06
tblVehicleEF	LDA	6.0000e-003	3.4550e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDA	1.7670e-003	8.3200e-004
tblVehicleEF	LDA	7.5200e-004	0.02
tblVehicleEF	LDA	0.32	0.44
tblVehicleEF	LDA	0.34	1.23
tblVehicleEF	LDA	177.42	217.05
tblVehicleEF	LDA	36.04	41.01
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	4.4460e-003	2.5670e-003

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tblVehicleEF	LDA	0.03	0.14
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.7750e-003	1.9240e-003
tblVehicleEF	LDA	3.6500e-004	3.6300e-004
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	6.4610e-003	3.7160e-003
tblVehicleEF	LDA	0.03	0.14
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.6100e-003	7.3600e-004
tblVehicleEF	LDA	1.0270e-003	0.02
tblVehicleEF	LDA	0.29	0.40
tblVehicleEF	LDA	0.51	1.82
tblVehicleEF	LDA	168.71	206.65
tblVehicleEF	LDA	36.04	42.12
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	3.5800e-003	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	2.4830e-003	0.02
tblVehicleEF	LDA	4.0590e-003	2.3470e-003
tblVehicleEF	LDA	0.03	0.20

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tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDA	1.6880e-003	1.8320e-003
tblVehicleEF	LDA	3.6800e-004	3.7300e-004
tblVehicleEF	LDA	3.5800e-003	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	2.4830e-003	0.02
tblVehicleEF	LDA	5.8960e-003	3.3960e-003
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.02	0.10
tblVehicleEF	LDT1	1.9070e-003	9.4600e-004
tblVehicleEF	LDT1	1.2100e-003	0.03
tblVehicleEF	LDT1	0.32	0.43
tblVehicleEF	LDT1	0.51	1.75
tblVehicleEF	LDT1	209.63	252.15
tblVehicleEF	LDT1	45.37	51.97
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.02	0.15
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	4.7310e-003	3.0380e-003
tblVehicleEF	LDT1	0.03	0.28
tblVehicleEF	LDT1	0.02	0.10

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tblVehicleEF	LDT1	2.0980e-003	2.2340e-003
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	6.8990e-003	4.4320e-003
tblVehicleEF	LDT1	0.03	0.28
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT1	2.0550e-003	1.0350e-003
tblVehicleEF	LDT1	1.0090e-003	0.02
tblVehicleEF	LDT1	0.35	0.47
tblVehicleEF	LDT1	0.40	1.37
tblVehicleEF	LDT1	220.22	262.77
tblVehicleEF	LDT1	45.37	51.26
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	0.02	0.24
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.02	0.23
tblVehicleEF	LDT1	5.0950e-003	3.2690e-003
tblVehicleEF	LDT1	0.03	0.25
tblVehicleEF	LDT1	0.01	0.08
tblVehicleEF	LDT1	2.2040e-003	2.3280e-003
tblVehicleEF	LDT1	4.6000e-004	4.5400e-004

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tblVehicleEF	LDT1	0.02	0.24
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.02	0.23
tblVehicleEF	LDT1	7.4310e-003	4.7690e-003
tblVehicleEF	LDT1	0.03	0.25
tblVehicleEF	LDT1	0.01	0.09
tblVehicleEF	LDT1	1.8740e-003	9.1700e-004
tblVehicleEF	LDT1	1.3790e-003	0.03
tblVehicleEF	LDT1	0.32	0.43
tblVehicleEF	LDT1	0.60	2.04
tblVehicleEF	LDT1	209.45	251.97
tblVehicleEF	LDT1	45.37	52.53
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.16
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	5.0240e-003	0.06
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	3.4640e-003	0.04
tblVehicleEF	LDT1	4.6480e-003	2.9850e-003
tblVehicleEF	LDT1	0.04	0.33
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT1	2.0960e-003	2.2330e-003
tblVehicleEF	LDT1	4.6300e-004	4.6500e-004
tblVehicleEF	LDT1	5.0240e-003	0.06

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tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	3.4640e-003	0.04
tblVehicleEF	LDT1	6.7780e-003	4.3540e-003
tblVehicleEF	LDT1	0.04	0.33
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT2	2.8190e-003	1.2600e-003
tblVehicleEF	LDT2	2.3310e-003	0.03
tblVehicleEF	LDT2	0.47	0.50
tblVehicleEF	LDT2	0.79	2.20
tblVehicleEF	LDT2	252.42	252.46
tblVehicleEF	LDT2	55.17	53.02
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.15
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.02	0.15
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.02	0.16
tblVehicleEF	LDT2	7.0170e-003	4.4720e-003
tblVehicleEF	LDT2	0.05	0.28
tblVehicleEF	LDT2	0.03	0.13
tblVehicleEF	LDT2	2.5270e-003	2.2380e-003
tblVehicleEF	LDT2	5.6400e-004	4.7000e-004
tblVehicleEF	LDT2	0.02	0.15
tblVehicleEF	LDT2	0.07	0.07

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tblVehicleEF	LDT2	0.02	0.16
tblVehicleEF	LDT2	0.01	6.4570e-003
tblVehicleEF	LDT2	0.05	0.28
tblVehicleEF	LDT2	0.03	0.15
tblVehicleEF	LDT2	3.0340e-003	1.3780e-003
tblVehicleEF	LDT2	1.9960e-003	0.03
tblVehicleEF	LDT2	0.52	0.55
tblVehicleEF	LDT2	0.66	1.72
tblVehicleEF	LDT2	264.93	262.08
tblVehicleEF	LDT2	55.17	52.11
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.04	0.13
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.05	0.32
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.04	0.29
tblVehicleEF	LDT2	7.5500e-003	4.7960e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.03	0.11
tblVehicleEF	LDT2	2.6530e-003	2.3240e-003
tblVehicleEF	LDT2	5.6200e-004	4.6200e-004
tblVehicleEF	LDT2	0.05	0.32
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.04	0.29

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tblVehicleEF	LDT2	0.01	6.9310e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	2.7690e-003	1.2220e-003
tblVehicleEF	LDT2	2.6130e-003	0.04
tblVehicleEF	LDT2	0.48	0.51
tblVehicleEF	LDT2	0.90	2.58
tblVehicleEF	LDT2	252.21	252.31
tblVehicleEF	LDT2	55.17	53.73
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.16
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.01	0.07
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	7.6010e-003	0.05
tblVehicleEF	LDT2	6.8940e-003	4.3970e-003
tblVehicleEF	LDT2	0.07	0.34
tblVehicleEF	LDT2	0.04	0.15
tblVehicleEF	LDT2	2.5250e-003	2.2370e-003
tblVehicleEF	LDT2	5.6600e-004	4.7600e-004
tblVehicleEF	LDT2	0.01	0.07
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	7.6010e-003	0.05
tblVehicleEF	LDT2	0.01	6.3480e-003

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tblVehicleEF	LDT2	0.07	0.34
tblVehicleEF	LDT2	0.04	0.17
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.3310e-003	3.9600e-003
tblVehicleEF	LHD1	8.2940e-003	7.2240e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.47	0.37
tblVehicleEF	LHD1	1.29	0.76
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.76
tblVehicleEF	LHD1	27.02	8.68
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.42	0.20
tblVehicleEF	LHD1	0.57	0.19
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003
tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	1.2360e-003	0.01
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	8.0900e-004	9.2900e-003
tblVehicleEF	LHD1	0.09	0.06

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tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9400e-004	8.6000e-005
tblVehicleEF	LHD1	1.2360e-003	0.01
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	8.0900e-004	9.2900e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.3890e-003	4.0070e-003
tblVehicleEF	LHD1	7.7400e-003	6.7790e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.47	0.38
tblVehicleEF	LHD1	1.18	0.70
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.76
tblVehicleEF	LHD1	27.02	8.57
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.41	0.19
tblVehicleEF	LHD1	0.53	0.17
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003

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tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	2.3600e-003	0.03
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	1.5530e-003	0.02
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.14	0.22
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9200e-004	8.5000e-005
tblVehicleEF	LHD1	2.3600e-003	0.03
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	1.5530e-003	0.02
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.14	0.22
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.2920e-003	3.9290e-003
tblVehicleEF	LHD1	8.7320e-003	7.5750e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.46	0.37

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tblVehicleEF	LHD1	1.39	0.82
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.75
tblVehicleEF	LHD1	27.02	8.78
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.43	0.20
tblVehicleEF	LHD1	0.61	0.20
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003
tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	6.2900e-004	7.2020e-003
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	3.1500e-004	3.5920e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9500e-004	8.7000e-005
tblVehicleEF	LHD1	6.2900e-004	7.2020e-003
tblVehicleEF	LHD1	0.07	0.05

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tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	3.1500e-004	3.5920e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	0.13	0.04
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7450e-003	5.0520e-003
tblVehicleEF	LHD2	2.1760e-003	3.0390e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.84	0.38
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.02
tblVehicleEF	LHD2	21.05	4.98
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.33
tblVehicleEF	LHD2	0.20	0.09
tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	3.7200e-004	5.8640e-003
tblVehicleEF	LHD2	0.01	0.02

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tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	2.4200e-004	3.8700e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003
tblVehicleEF	LHD2	2.2400e-004	4.9000e-005
tblVehicleEF	LHD2	3.7200e-004	5.8640e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	2.4200e-004	3.8700e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7720e-003	5.0740e-003
tblVehicleEF	LHD2	2.1430e-003	2.8520e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.77	0.35
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.02
tblVehicleEF	LHD2	21.05	4.93
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.32
tblVehicleEF	LHD2	0.19	0.08

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tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	7.3200e-004	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	4.7800e-004	7.5310e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003
tblVehicleEF	LHD2	2.2300e-004	4.9000e-005
tblVehicleEF	LHD2	7.3200e-004	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	4.7800e-004	7.5310e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7280e-003	5.0370e-003

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tblVehicleEF	LHD2	2.2020e-003	3.1870e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.90	0.41
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.01
tblVehicleEF	LHD2	21.05	5.03
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.34
tblVehicleEF	LHD2	0.20	0.09
tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	1.8500e-004	2.9740e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	9.3000e-005	1.4940e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003

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tblVehicleEF	LHD2	2.2500e-004	5.0000e-005
tblVehicleEF	LHD2	1.8500e-004	2.9740e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	9.3000e-005	1.4940e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	MCY	0.53	0.36
tblVehicleEF	MCY	0.17	0.26
tblVehicleEF	MCY	18.33	18.38
tblVehicleEF	MCY	10.94	9.75
tblVehicleEF	MCY	182.27	219.06
tblVehicleEF	MCY	43.71	61.12
tblVehicleEF	MCY	1.18	1.19
tblVehicleEF	MCY	0.32	0.28
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	0.75	1.56
tblVehicleEF	MCY	0.74	0.77
tblVehicleEF	MCY	0.37	0.77
tblVehicleEF	MCY	2.48	2.49
tblVehicleEF	MCY	0.47	1.31
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MCY	2.1980e-003	2.1680e-003

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tblVehicleEF	MCY	6.8200e-004	6.0500e-004
tblVehicleEF	MCY	0.75	1.56
tblVehicleEF	MCY	0.74	0.77
tblVehicleEF	MCY	0.37	0.77
tblVehicleEF	MCY	3.10	3.11
tblVehicleEF	MCY	0.47	1.31
tblVehicleEF	MCY	2.46	2.19
tblVehicleEF	MCY	0.51	0.35
tblVehicleEF	MCY	0.14	0.21
tblVehicleEF	MCY	16.96	17.00
tblVehicleEF	MCY	9.17	8.10
tblVehicleEF	MCY	182.27	216.52
tblVehicleEF	MCY	43.71	57.27
tblVehicleEF	MCY	1.05	1.05
tblVehicleEF	MCY	0.30	0.25
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	1.84	3.79
tblVehicleEF	MCY	0.88	0.92
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	2.39	2.39
tblVehicleEF	MCY	0.41	1.15
tblVehicleEF	MCY	1.86	1.64
tblVehicleEF	MCY	2.1730e-003	2.1430e-003
tblVehicleEF	MCY	6.4100e-004	5.6700e-004

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tblVehicleEF	MCY	1.84	3.79
tblVehicleEF	MCY	0.88	0.92
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	2.98	2.99
tblVehicleEF	MCY	0.41	1.15
tblVehicleEF	MCY	2.02	1.78
tblVehicleEF	MCY	0.54	0.37
tblVehicleEF	MCY	0.19	0.30
tblVehicleEF	MCY	19.75	19.80
tblVehicleEF	MCY	12.83	11.48
tblVehicleEF	MCY	182.27	221.65
tblVehicleEF	MCY	43.71	65.04
tblVehicleEF	MCY	1.26	1.26
tblVehicleEF	MCY	0.35	0.30
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	0.22	0.45
tblVehicleEF	MCY	0.83	0.87
tblVehicleEF	MCY	0.11	0.22
tblVehicleEF	MCY	2.57	2.58
tblVehicleEF	MCY	0.58	1.61
tblVehicleEF	MCY	2.65	2.36
tblVehicleEF	MCY	2.2240e-003	2.1930e-003
tblVehicleEF	MCY	7.2500e-004	6.4400e-004
tblVehicleEF	MCY	0.22	0.45

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tblVehicleEF	MCY	0.83	0.87
tblVehicleEF	MCY	0.11	0.22
tblVehicleEF	MCY	3.21	3.22
tblVehicleEF	MCY	0.58	1.61
tblVehicleEF	MCY	2.88	2.57
tblVehicleEF	MDV	4.6980e-003	1.3630e-003
tblVehicleEF	MDV	6.0110e-003	0.03
tblVehicleEF	MDV	0.64	0.51
tblVehicleEF	MDV	1.36	2.26
tblVehicleEF	MDV	339.26	305.96
tblVehicleEF	MDV	73.02	62.75
tblVehicleEF	MDV	0.07	0.03
tblVehicleEF	MDV	0.12	0.17
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.01	4.9950e-003
tblVehicleEF	MDV	0.08	0.29
tblVehicleEF	MDV	0.08	0.15
tblVehicleEF	MDV	3.3930e-003	2.7170e-003
tblVehicleEF	MDV	7.5300e-004	5.5600e-004
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.13	0.09

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tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.02	7.1990e-003
tblVehicleEF	MDV	0.08	0.29
tblVehicleEF	MDV	0.09	0.16
tblVehicleEF	MDV	5.0540e-003	1.4900e-003
tblVehicleEF	MDV	5.0610e-003	0.03
tblVehicleEF	MDV	0.70	0.56
tblVehicleEF	MDV	1.10	1.76
tblVehicleEF	MDV	355.62	315.48
tblVehicleEF	MDV	73.02	61.81
tblVehicleEF	MDV	0.06	0.03
tblVehicleEF	MDV	0.11	0.15
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.09	0.39
tblVehicleEF	MDV	0.01	5.3540e-003
tblVehicleEF	MDV	0.07	0.26
tblVehicleEF	MDV	0.07	0.12
tblVehicleEF	MDV	3.5580e-003	2.8010e-003
tblVehicleEF	MDV	7.4800e-004	5.4800e-004
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.09	0.39

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tblVehicleEF	MDV	0.02	7.7230e-003
tblVehicleEF	MDV	0.07	0.26
tblVehicleEF	MDV	0.07	0.13
tblVehicleEF	MDV	4.6150e-003	1.3220e-003
tblVehicleEF	MDV	6.8120e-003	0.04
tblVehicleEF	MDV	0.64	0.51
tblVehicleEF	MDV	1.56	2.64
tblVehicleEF	MDV	338.97	305.81
tblVehicleEF	MDV	73.02	63.49
tblVehicleEF	MDV	0.07	0.03
tblVehicleEF	MDV	0.13	0.18
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	0.01	4.9120e-003
tblVehicleEF	MDV	0.10	0.35
tblVehicleEF	MDV	0.09	0.17
tblVehicleEF	MDV	3.3900e-003	2.7150e-003
tblVehicleEF	MDV	7.5700e-004	5.6300e-004
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	0.02	7.0780e-003

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tblVehicleEF	MDV	0.10	0.35
tblVehicleEF	MDV	0.10	0.18
tblVehicleEF	MH	5.4220e-003	4.1740e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.26	0.23
tblVehicleEF	MH	3.31	1.50
tblVehicleEF	MH	1,176.44	1,266.18
tblVehicleEF	MH	55.59	14.09
tblVehicleEF	MH	0.77	1.12
tblVehicleEF	MH	0.58	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.14	0.01
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	3.9420e-003	0.24
tblVehicleEF	MH	0.20	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1400e-004	1.3900e-004
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.14	0.01

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tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	3.9420e-003	0.24
tblVehicleEF	MH	0.22	0.08
tblVehicleEF	MH	5.6040e-003	4.2710e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.27	0.23
tblVehicleEF	MH	3.00	1.37
tblVehicleEF	MH	1,176.44	1,266.19
tblVehicleEF	MH	55.59	13.86
tblVehicleEF	MH	0.73	1.08
tblVehicleEF	MH	0.53	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.54	0.04
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	3.7600e-003	0.23
tblVehicleEF	MH	0.19	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.0800e-004	1.3700e-004
tblVehicleEF	MH	0.54	0.04
tblVehicleEF	MH	0.03	0.02

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tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	3.7600e-003	0.23
tblVehicleEF	MH	0.21	0.07
tblVehicleEF	MH	5.3060e-003	4.1110e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.26	0.22
tblVehicleEF	MH	3.62	1.65
tblVehicleEF	MH	1,176.44	1,266.18
tblVehicleEF	MH	55.59	14.33
tblVehicleEF	MH	0.78	1.14
tblVehicleEF	MH	0.62	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.15	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.06	4.9680e-003
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	4.3120e-003	0.26
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1900e-004	1.4200e-004
tblVehicleEF	MH	0.15	0.01

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tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.06	4.9680e-003
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	4.3120e-003	0.26
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2480e-003	7.7200e-004
tblVehicleEF	MHD	0.03	3.1220e-003
tblVehicleEF	MHD	0.26	3.73
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	1.99	0.30
tblVehicleEF	MHD	178.42	592.23
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.93
tblVehicleEF	MHD	0.49	3.22
tblVehicleEF	MHD	1.08	1.49
tblVehicleEF	MHD	14.07	1.96
tblVehicleEF	MHD	5.8000e-005	9.6200e-004
tblVehicleEF	MHD	3.0680e-003	7.5170e-003
tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	5.6000e-005	9.2100e-004
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	3.1900e-004	1.7150e-003
tblVehicleEF	MHD	0.02	5.0230e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	2.1000e-004	1.1250e-003

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tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	7.1260e-003	0.03
tblVehicleEF	MHD	0.13	0.02
tblVehicleEF	MHD	1.7100e-003	5.6140e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	4.0000e-004	2.9000e-005
tblVehicleEF	MHD	3.1900e-004	1.7150e-003
tblVehicleEF	MHD	0.02	5.0230e-003
tblVehicleEF	MHD	0.03	0.21
tblVehicleEF	MHD	2.1000e-004	1.1250e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	7.1260e-003	0.03
tblVehicleEF	MHD	0.14	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2610e-003	7.8700e-004
tblVehicleEF	MHD	0.03	2.9270e-003
tblVehicleEF	MHD	0.17	3.16
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	1.81	0.27
tblVehicleEF	MHD	189.21	587.50
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.89
tblVehicleEF	MHD	0.50	3.07
tblVehicleEF	MHD	1.05	1.44
tblVehicleEF	MHD	14.05	1.96
tblVehicleEF	MHD	4.9000e-005	8.4500e-004
tblVehicleEF	MHD	3.0680e-003	7.5170e-003

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tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	4.7000e-005	8.0900e-004
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	6.2200e-004	3.3590e-003
tblVehicleEF	MHD	0.02	5.1730e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	4.1100e-004	2.2120e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	6.6650e-003	0.02
tblVehicleEF	MHD	0.12	0.01
tblVehicleEF	MHD	1.8120e-003	5.5700e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	3.9700e-004	2.9000e-005
tblVehicleEF	MHD	6.2200e-004	3.3590e-003
tblVehicleEF	MHD	0.02	5.1730e-003
tblVehicleEF	MHD	0.02	0.20
tblVehicleEF	MHD	4.1100e-004	2.2120e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	6.6650e-003	0.02
tblVehicleEF	MHD	0.13	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2400e-003	7.6200e-004
tblVehicleEF	MHD	0.03	3.2720e-003
tblVehicleEF	MHD	0.33	4.16
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	2.16	0.32

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tblVehicleEF	MHD	163.98	600.32
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.98
tblVehicleEF	MHD	0.47	3.41
tblVehicleEF	MHD	1.10	1.51
tblVehicleEF	MHD	14.09	1.96
tblVehicleEF	MHD	7.1000e-005	1.1240e-003
tblVehicleEF	MHD	3.0680e-003	7.5170e-003
tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	6.8000e-005	1.0750e-003
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	1.6100e-004	8.6100e-004
tblVehicleEF	MHD	0.02	5.1140e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	8.1000e-005	4.3200e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	8.0270e-003	0.03
tblVehicleEF	MHD	0.14	0.02
tblVehicleEF	MHD	1.5730e-003	5.6900e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	4.0300e-004	2.9000e-005
tblVehicleEF	MHD	1.6100e-004	8.6100e-004
tblVehicleEF	MHD	0.02	5.1140e-003
tblVehicleEF	MHD	0.03	0.21
tblVehicleEF	MHD	8.1000e-005	4.3200e-004
tblVehicleEF	MHD	0.05	0.01

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tblVehicleEF	MHD	8.0270e-003	0.03
tblVehicleEF	MHD	0.15	0.02
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.4180e-003	3.2250e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	9.37
tblVehicleEF	OBUS	0.29	0.33
tblVehicleEF	OBUS	4.36	1.53
tblVehicleEF	OBUS	87.86	1,204.87
tblVehicleEF	OBUS	1,290.02	1,289.82
tblVehicleEF	OBUS	67.94	12.35
tblVehicleEF	OBUS	0.19	5.49
tblVehicleEF	OBUS	0.65	1.10
tblVehicleEF	OBUS	1.75	1.20
tblVehicleEF	OBUS	1.7000e-005	1.8470e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	1.7000e-005	1.7670e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003
tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	1.1160e-003	0.02
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.79
tblVehicleEF	OBUS	5.5400e-004	0.01
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.24
tblVehicleEF	OBUS	0.28	0.08

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tblVehicleEF	OBUS	8.5000e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.5600e-004	1.2200e-004
tblVehicleEF	OBUS	1.1160e-003	0.02
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	1.03
tblVehicleEF	OBUS	5.5400e-004	0.01
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.05	0.24
tblVehicleEF	OBUS	0.31	0.08
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.5470e-003	3.3510e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	9.29
tblVehicleEF	OBUS	0.30	0.34
tblVehicleEF	OBUS	3.96	1.39
tblVehicleEF	OBUS	92.09	1,190.97
tblVehicleEF	OBUS	1,290.02	1,289.84
tblVehicleEF	OBUS	67.94	12.11
tblVehicleEF	OBUS	0.19	5.22
tblVehicleEF	OBUS	0.62	1.06
tblVehicleEF	OBUS	1.69	1.18
tblVehicleEF	OBUS	1.5000e-005	1.6410e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	1.4000e-005	1.5700e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003

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tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	2.1480e-003	0.04
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.81
tblVehicleEF	OBUS	1.1070e-003	0.02
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.23
tblVehicleEF	OBUS	0.26	0.07
tblVehicleEF	OBUS	8.9100e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.4900e-004	1.2000e-004
tblVehicleEF	OBUS	2.1480e-003	0.04
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	1.06
tblVehicleEF	OBUS	1.1070e-003	0.02
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.05	0.23
tblVehicleEF	OBUS	0.29	0.08
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.3350e-003	3.1420e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.26	9.48
tblVehicleEF	OBUS	0.29	0.32
tblVehicleEF	OBUS	4.78	1.68
tblVehicleEF	OBUS	82.02	1,224.08
tblVehicleEF	OBUS	1,290.02	1,289.81
tblVehicleEF	OBUS	67.94	12.60

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tblVehicleEF	OBUS	0.18	5.87
tblVehicleEF	OBUS	0.66	1.12
tblVehicleEF	OBUS	1.79	1.21
tblVehicleEF	OBUS	2.1000e-005	2.1310e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	2.0000e-005	2.0390e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003
tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	5.9200e-004	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.76
tblVehicleEF	OBUS	2.4400e-004	4.9660e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.06	0.26
tblVehicleEF	OBUS	0.30	0.08
tblVehicleEF	OBUS	7.9500e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6300e-004	1.2500e-004
tblVehicleEF	OBUS	5.9200e-004	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.99
tblVehicleEF	OBUS	2.4400e-004	4.9660e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.06	0.26
tblVehicleEF	OBUS	0.33	0.09
tblVehicleEF	SBUS	0.84	0.59

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tblVehicleEF	SBUS	3.2920e-003	1.4860e-003
tblVehicleEF	SBUS	0.06	0.01
tblVehicleEF	SBUS	5.90	27.54
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	4.75	1.82
tblVehicleEF	SBUS	1,123.21	2,870.44
tblVehicleEF	SBUS	1,068.95	883.72
tblVehicleEF	SBUS	40.19	9.64
tblVehicleEF	SBUS	2.65	12.99
tblVehicleEF	SBUS	1.03	1.50
tblVehicleEF	SBUS	14.15	1.63
tblVehicleEF	SBUS	2.0500e-004	3.2780e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	1.9700e-004	3.1360e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003
tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	2.3390e-003	5.5350e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.72	2.70
tblVehicleEF	SBUS	1.1850e-003	2.7720e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.11
tblVehicleEF	SBUS	0.25	0.07
tblVehicleEF	SBUS	0.01	0.03

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tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	4.8400e-004	9.5000e-005
tblVehicleEF	SBUS	2.3390e-003	5.5350e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.04	3.88
tblVehicleEF	SBUS	1.1850e-003	2.7720e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.11
tblVehicleEF	SBUS	0.28	0.08
tblVehicleEF	SBUS	0.84	0.59
tblVehicleEF	SBUS	3.3440e-003	1.5120e-003
tblVehicleEF	SBUS	0.05	0.01
tblVehicleEF	SBUS	5.85	27.39
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	3.52	1.35
tblVehicleEF	SBUS	1,178.17	2,850.52
tblVehicleEF	SBUS	1,068.95	883.73
tblVehicleEF	SBUS	40.19	8.86
tblVehicleEF	SBUS	2.73	12.48
tblVehicleEF	SBUS	0.99	1.44
tblVehicleEF	SBUS	14.12	1.62
tblVehicleEF	SBUS	1.7300e-004	2.8970e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	1.6600e-004	2.7720e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003

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tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	4.4490e-003	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.72	2.72
tblVehicleEF	SBUS	2.3340e-003	5.5170e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	0.21	0.06
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	4.6400e-004	8.8000e-005
tblVehicleEF	SBUS	4.4490e-003	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	1.04	3.89
tblVehicleEF	SBUS	2.3340e-003	5.5170e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	0.23	0.07
tblVehicleEF	SBUS	0.84	0.59
tblVehicleEF	SBUS	3.2550e-003	1.4670e-003
tblVehicleEF	SBUS	0.06	0.02
tblVehicleEF	SBUS	5.97	27.75
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	6.14	2.35
tblVehicleEF	SBUS	1,047.32	2,897.95
tblVehicleEF	SBUS	1,068.95	883.72

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tblVehicleEF	SBUS	40.19	10.52
tblVehicleEF	SBUS	2.53	13.69
tblVehicleEF	SBUS	1.04	1.51
tblVehicleEF	SBUS	14.17	1.64
tblVehicleEF	SBUS	2.5000e-004	3.8030e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	2.3900e-004	3.6390e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003
tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	1.2710e-003	2.9600e-003
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.72	2.69
tblVehicleEF	SBUS	5.2800e-004	1.2260e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.02	0.13
tblVehicleEF	SBUS	0.29	0.08
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	5.0700e-004	1.0400e-004
tblVehicleEF	SBUS	1.2710e-003	2.9600e-003
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	1.04	3.86
tblVehicleEF	SBUS	5.2800e-004	1.2260e-003
tblVehicleEF	SBUS	0.05	0.02

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tblVehicleEF	SBUS	0.02	0.13
tblVehicleEF	SBUS	0.32	0.09
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.07	1.6310e-003
tblVehicleEF	UBUS	3.30	27.63
tblVehicleEF	UBUS	8.69	0.15
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.26
tblVehicleEF	UBUS	2.76	0.55
tblVehicleEF	UBUS	12.33	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	3.2160e-003	9.2000e-005
tblVehicleEF	UBUS	0.06	3.2100e-004
tblVehicleEF	UBUS	2.1090e-003	5.1000e-005
tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.02	1.9470e-003
tblVehicleEF	UBUS	0.90	7.5660e-003
tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.5900e-003	1.2000e-005
tblVehicleEF	UBUS	3.2160e-003	9.2000e-005

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tblVehicleEF	UBUS	0.06	3.2100e-004
tblVehicleEF	UBUS	2.1090e-003	5.1000e-005
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.02	1.9470e-003
tblVehicleEF	UBUS	0.99	8.2830e-003
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.06	1.4450e-003
tblVehicleEF	UBUS	3.31	27.63
tblVehicleEF	UBUS	6.96	0.12
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.21
tblVehicleEF	UBUS	2.65	0.55
tblVehicleEF	UBUS	12.22	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	5.9070e-003	1.9800e-004
tblVehicleEF	UBUS	0.07	3.5800e-004
tblVehicleEF	UBUS	4.1490e-003	1.2400e-004
tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.02	1.6760e-003
tblVehicleEF	UBUS	0.79	6.6320e-003

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tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.5600e-003	1.2000e-005
tblVehicleEF	UBUS	5.9070e-003	1.9800e-004
tblVehicleEF	UBUS	0.07	3.5800e-004
tblVehicleEF	UBUS	4.1490e-003	1.2400e-004
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.02	1.6760e-003
tblVehicleEF	UBUS	0.86	7.2610e-003
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.07	1.7860e-003
tblVehicleEF	UBUS	3.29	27.63
tblVehicleEF	UBUS	10.37	0.17
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.30
tblVehicleEF	UBUS	2.79	0.55
tblVehicleEF	UBUS	12.42	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	1.7240e-003	3.8000e-005
tblVehicleEF	UBUS	0.06	3.4400e-004
tblVehicleEF	UBUS	9.9800e-004	2.0000e-005

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tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.03	2.4500e-003
tblVehicleEF	UBUS	0.99	8.3520e-003
tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.6200e-003	1.3000e-005
tblVehicleEF	UBUS	1.7240e-003	3.8000e-005
tblVehicleEF	UBUS	0.06	3.4400e-004
tblVehicleEF	UBUS	9.9800e-004	2.0000e-005
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.03	2.4500e-003
tblVehicleEF	UBUS	1.09	9.1440e-003
tblVehicleTrips	CC_TTP	88.60	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CW_TTP	6.40	0.00
tblVehicleTrips	HO_TL	7.90	0.00
tblVehicleTrips	HO_TL	7.90	0.00
tblVehicleTrips	HO_TL	0.00	6.89
tblVehicleTrips	HO_TTP	0.00	5.00
tblVehicleTrips	HS_TL	7.10	0.00
tblVehicleTrips	HS_TL	7.10	0.00
tblVehicleTrips	HS_TL	0.00	11.65
tblVehicleTrips	HS_TTP	0.00	88.00
tblVehicleTrips	HW_TL	16.80	0.00
tblVehicleTrips	HW_TL	16.80	0.00
tblVehicleTrips	HW_TL	0.00	15.00
tblVehicleTrips	HW_TTP	0.00	7.00
tblVehicleTrips	ST_TR	7.16	0.00

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tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.46
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	0.00	0.46
tblVehicleTrips	WD_TR	6.59	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	1.33
tblWater	IndoorWaterUseRate	13,389,375.00	8,926,250.00
tblWater	IndoorWaterUseRate	35,965,537.32	23,977,222.02
tblWater	IndoorWaterUseRate	554,321,005.26	369,547,336.84
tblWater	OutdoorWaterUseRate	22,043,393.84	14,695,716.72

2.0 Emissions Summary

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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	0.0000	0.0000	0.0000	0.0000	1.1100e-003	0.0000	1.1100e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	7.7700e-003	0.0431	0.0621	2.5000e-004	0.0197	2.0000e-004	0.0199	5.2900e-003	1.8000e-004	5.4700e-003	0.0000	23.2139	23.2139	7.7000e-004	0.0000	23.2331
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	7.7700e-003	0.0431	0.0621	2.5000e-004	0.0197	2.0000e-004	0.0199	5.2900e-003	1.8000e-004	5.4700e-003	0.0000	23.2139	23.2139	7.7000e-004	0.0000	23.2331

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2.1 Overall Construction

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	0.0000	0.0000	0.0000	0.0000	1.1100e-003	0.0000	1.1100e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	7.7700e-003	0.0431	0.0621	2.5000e-004	0.0197	2.0000e-004	0.0199	5.2900e-003	1.8000e-004	5.4700e-003	0.0000	23.2139	23.2139	7.7000e-004	0.0000	23.2331
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	7.7700e-003	0.0431	0.0621	2.5000e-004	0.0197	2.0000e-004	0.0199	5.2900e-003	1.8000e-004	5.4700e-003	0.0000	23.2139	23.2139	7.7000e-004	0.0000	23.2331

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
10	4-3-2024	7-2-2024	0.1064	0.1064
		Highest	0.1064	0.1064

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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	26.4146	0.2024	17.5672	9.3000e-004		0.0976	0.0976		0.0976	0.0976	0.0000	28.8678	28.8678	0.0279	0.0000	29.5661
Energy	0.4711	4.2477	3.3380	0.0257		0.3255	0.3255		0.3255	0.3255	0.0000	5,801.9438	5,801.9438	0.1626	0.1001	5,835.8460
Mobile	3.2717	8.6315	35.1242	0.1131	15.0196	0.0642	15.0838	4.0195	0.0602	4.0796	0.0000	11,464.4699	11,464.4699	0.4289	0.0000	11,475.1927
Waste						0.0000	0.0000		0.0000	0.0000	1,000.1141	0.0000	1,000.1141	59.1051	0.0000	2,477.7405
Water						0.0000	0.0000		0.0000	0.0000	169.1976	116.1847	285.3822	17.3857	0.4118	842.7497
Total	30.1574	13.0816	56.0294	0.1397	15.0196	0.4873	15.5069	4.0195	0.4832	4.5027	1,169.3117	17,411.4663	18,580.7780	77.1102	0.5120	20,661.0950

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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	20.8954	0.1607	13.3210	6.1000e-004		0.0726	0.0726		0.0726	0.0726	0.0000	20.1552	20.1552	0.0146	0.0000	20.5188
Energy	0.4711	4.2477	3.3380	0.0257		0.3255	0.3255		0.3255	0.3255	0.0000	5,801.9438	5,801.9438	0.1626	0.1001	5,835.8460
Mobile	3.2717	8.6315	35.1242	0.1131	15.0196	0.0642	15.0838	4.0195	0.0602	4.0796	0.0000	11,464.4699	11,464.4699	0.4289	0.0000	11,475.1927
Waste						0.0000	0.0000		0.0000	0.0000	1,000.1141	0.0000	1,000.1141	59.1051	0.0000	2,477.7405
Water						0.0000	0.0000		0.0000	0.0000	169.1976	116.1847	285.3822	17.3857	0.4118	842.7497
Total	24.6382	13.0399	51.7832	0.1394	15.0196	0.4624	15.4820	4.0195	0.4583	4.4778	1,169.3117	17,402.7536	18,572.0653	77.0968	0.5120	20,652.0477

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	18.30	0.32	7.58	0.23	0.00	5.12	0.16	0.00	5.16	0.55	0.00	0.05	0.05	0.02	0.00	0.04

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	- 2,160.268 0
Total	- 2,160.268 0

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/2/2022	5	0	
2	Site Preparation	Site Preparation	10/8/2022	10/7/2022	5	0	
3	Grading	Grading	3/25/2023	3/24/2023	5	0	
4	Building Construction	Building Construction	6/1/2024	6/3/2024	5	1	
5	Paving	Paving	4/19/2036	4/18/2036	5	0	
6	Architectural Coating	Architectural Coating	2/21/2037	2/20/2037	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 43.07

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Residential Indoor: 3,436,425; Residential Outdoor: 1,145,475; Non-Residential Indoor: 3,083,825; Non-Residential Outdoor: 1,027,942; Striped Parking Area: 112,577 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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3.7 Architectural Coating - 2037

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

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	3.2717	8.6315	35.1242	0.1131	15.0196	0.0642	15.0838	4.0195	0.0602	4.0796	0.0000	11,464.4699	11,464.4699	0.4289	0.0000	11,475.1927
Unmitigated	3.2717	8.6315	35.1242	0.1131	15.0196	0.0642	15.0838	4.0195	0.0602	4.0796	0.0000	11,464.4699	11,464.4699	0.4289	0.0000	11,475.1927

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	12,609.15	4,344.33	4,344.33	40,511,214	40,511,214
Total	12,609.15	4,344.33	4,344.33	40,511,214	40,511,214

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	0.00	0.00	0.00	44.00	18.80	37.20	86	11	3
Apartments Mid Rise	0.00	0.00	0.00	44.00	18.80	37.20	86	11	3
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Research & Development	14.70	6.60	6.60	33.00	48.00	19.00	82	15	3
University/College (4Yr)	14.70	6.60	6.60	0.00	0.00	0.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Apartments Mid Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Apartments Mid Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
General Light Industry	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Health Club	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Parking Lot	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Research & Development	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
University/College (4Yr)	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1,139.2384	1,139.2384	0.0732	0.0146	1,145.4325
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	1,139.2384	1,139.2384	0.0732	0.0146	1,145.4325
NaturalGas Mitigated	0.4711	4.2477	3.3380	0.0257			0.3255	0.3255		0.3255	0.3255	4,662.7054	4,662.7054	0.0894	0.0855	4,690.4135
NaturalGas Unmitigated	0.4711	4.2477	3.3380	0.0257			0.3255	0.3255		0.3255	0.3255	4,662.7054	4,662.7054	0.0894	0.0855	4,690.4135

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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					
Apartments Low Rise	3.46349e+006	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	184.8248	184.8248	3.5400e-003	3.3900e-003	185.9232
Apartments Mid Rise	8.58203e+006	0.0463	0.3955	0.1683	2.5200e-003		0.0320	0.0320		0.0320	0.0320	0.0000	457.9698	457.9698	8.7800e-003	8.4000e-003	460.6913
General Light Industry	1.47016e+006	7.9300e-003	0.0721	0.0605	4.3000e-004		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	78.4532	78.4532	1.5000e-003	1.4400e-003	78.9194
Health Club	1.54399e+007	0.0833	0.7569	0.6358	4.5400e-003		0.0575	0.0575		0.0575	0.0575	0.0000	823.9326	823.9326	0.0158	0.0151	828.8288
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	2.8624e+007	0.1544	1.4031	1.1786	8.4200e-003		0.1066	0.1066		0.1066	0.1066	0.0000	1,527.4857	1,527.4857	0.0293	0.0280	1,536.5628
University/College (4Yr)	2.97962e+007	0.1607	1.4606	1.2269	8.7600e-003		0.1110	0.1110		0.1110	0.1110	0.0000	1,590.0394	1,590.0394	0.0305	0.0292	1,599.4882
Total		0.4712	4.2477	3.3380	0.0257		0.3255	0.3255		0.3255	0.3255	0.0000	4,662.7054	4,662.7054	0.0894	0.0855	4,690.4136

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5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	3.46349e+006	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	184.8248	184.8248	3.5400e-003	3.3900e-003	185.9232
Apartments Mid Rise	8.58203e+006	0.0463	0.3955	0.1683	2.5200e-003		0.0320	0.0320		0.0320	0.0320	0.0000	457.9698	457.9698	8.7800e-003	8.4000e-003	460.6913
General Light Industry	1.47016e+006	7.9300e-003	0.0721	0.0605	4.3000e-004		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	78.4532	78.4532	1.5000e-003	1.4400e-003	78.9194
Health Club	1.54399e+007	0.0833	0.7569	0.6358	4.5400e-003		0.0575	0.0575		0.0575	0.0575	0.0000	823.9326	823.9326	0.0158	0.0151	828.8288
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	2.8624e+007	0.1544	1.4031	1.1786	8.4200e-003		0.1066	0.1066		0.1066	0.1066	0.0000	1,527.4857	1,527.4857	0.0293	0.0280	1,536.5628
University/College (4Yr)	2.97962e+007	0.1607	1.4606	1.2269	8.7600e-003		0.1110	0.1110		0.1110	0.1110	0.0000	1,590.0394	1,590.0394	0.0305	0.0292	1,599.4882
Total		0.4712	4.2477	3.3380	0.0257		0.3255	0.3255		0.3255	0.3255	0.0000	4,662.7054	4,662.7054	0.0894	0.0855	4,690.4136

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.86031e+006	65.6494	4.2200e-003	8.4000e-004	66.0064
Apartments Mid Rise	5.05112e+006	178.2513	0.0115	2.2900e-003	179.2205
General Light Industry	474226	16.7352	1.0800e-003	2.2000e-004	16.8262
Health Club	4.98042e+006	175.7565	0.0113	2.2600e-003	176.7121
Parking Lot	656696	23.1745	1.4900e-003	3.0000e-004	23.3005
Research & Development	9.23318e+006	325.8344	0.0209	4.1900e-003	327.6059
University/College (4Yr)	1.00267e+007	353.8372	0.0227	4.5500e-003	355.7610
Total		1,139.2384	0.0732	0.0147	1,145.4325

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.86031e+006	65.6494	4.2200e-003	8.4000e-004	66.0064
Apartments Mid Rise	5.05112e+006	178.2513	0.0115	2.2900e-003	179.2205
General Light Industry	474226	16.7352	1.0800e-003	2.2000e-004	16.8262
Health Club	4.98042e+006	175.7565	0.0113	2.2600e-003	176.7121
Parking Lot	656696	23.1745	1.4900e-003	3.0000e-004	23.3005
Research & Development	9.23318e+006	325.8344	0.0209	4.1900e-003	327.6059
University/College (4Yr)	1.00267e+007	353.8372	0.0227	4.5500e-003	355.7610
Total		1,139.2384	0.0732	0.0147	1,145.4325

6.0 Area Detail

6.1 Mitigation Measures Area

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Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	20.8954	0.1607	13.3210	6.1000e-004		0.0726	0.0726		0.0726	0.0726	0.0000	20.1552	20.1552	0.0146	0.0000	20.5188
Unmitigated	26.4146	0.2024	17.5672	9.3000e-004		0.0976	0.0976		0.0976	0.0976	0.0000	28.8678	28.8678	0.0279	0.0000	29.5661

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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	3.7756					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	22.1047					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5343	0.2024	17.5672	9.3000e-004		0.0976	0.0976		0.0976	0.0976	0.0000	28.8678	28.8678	0.0279	0.0000	29.5661
Total	26.4146	0.2024	17.5672	9.3000e-004		0.0976	0.0976		0.0976	0.0976	0.0000	28.8678	28.8678	0.0279	0.0000	29.5661

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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	0.1524					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	20.4610					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2820	0.1607	13.3210	6.1000e-004		0.0726	0.0726		0.0726	0.0726	0.0000	20.1552	20.1552	0.0146	0.0000	20.5188
Total	20.8954	0.1607	13.3210	6.1000e-004		0.0726	0.0726		0.0726	0.0726	0.0000	20.1552	20.1552	0.0146	0.0000	20.5188

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	285.3822	17.3857	0.4118	842.7497
Unmitigated	285.3822	17.3857	0.4118	842.7497

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	28.6678 / 18.0732	16.8014	0.9346	0.0222	46.7698
Apartments Mid Rise	81.8986 / 51.6317	47.9985	2.6701	0.0633	133.6128
General Light Industry	8.92625 / 0	4.5364	0.2910	6.8900e-003	13.8638
Health Club	23.9772 / 14.6957	14.0005	0.7817	0.0185	39.0652
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	369.547 / 0	187.8059	12.0462	0.2852	573.9628
University/College (4Yr)	20.3019 / 31.7543	14.2396	0.6620	0.0157	35.4753
Total		285.3823	17.3857	0.4118	842.7497

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	28.6678 / 18.0732	16.8014	0.9346	0.0222	46.7698
Apartments Mid Rise	81.8986 / 51.6317	47.9985	2.6701	0.0633	133.6128
General Light Industry	8.92625 / 0	4.5364	0.2910	6.8900e-003	13.8638
Health Club	23.9772 / 14.6957	14.0005	0.7817	0.0185	39.0652
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	369.547 / 0	187.8059	12.0462	0.2852	573.9628
University/College (4Yr)	20.3019 / 31.7543	14.2396	0.6620	0.0157	35.4753
Total		285.3823	17.3857	0.4118	842.7497

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,000.114 1	59.1051	0.0000	2,477.740 5
Unmitigated	1,000.114 1	59.1051	0.0000	2,477.740 5

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	202.4	41.0854	2.4281	0.0000	101.7873
Apartments Mid Rise	578.22	117.3734	6.9366	0.0000	290.7877
General Light Industry	47.86	9.7152	0.5742	0.0000	24.0689
Health Club	2310.84	469.0796	27.7218	0.0000	1,162.1250
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	57.11	11.5928	0.6851	0.0000	28.7207
University/College (4Yr)	1730.46	351.2677	20.7593	0.0000	870.2510
Total		1,000.1141	59.1051	0.0000	2,477.7405

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	202.4	41.0854	2.4281	0.0000	101.7873
Apartments Mid Rise	578.22	117.3734	6.9366	0.0000	290.7877
General Light Industry	47.86	9.7152	0.5742	0.0000	24.0689
Health Club	2310.84	469.0796	27.7218	0.0000	1,162.1250
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	57.11	11.5928	0.6851	0.0000	28.7207
University/College (4Yr)	1730.46	351.2677	20.7593	0.0000	870.2510
Total		1,000.1141	59.1051	0.0000	2,477.7405

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	- 2,160.268 0	0.0000	0.0000	- 2,160.268 0

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Pine	-3386	- 2,160.268 0	0.0000	0.0000	- 2,160.268 0
Total		- 2,160.268 0	0.0000	0.0000	- 2,160.268 0

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	1,127.37	1000sqft	25.88	1,127,373.00	0
University/College (4Yr)	9,482.00	Student	40.01	1,290,438.00	0
General Light Industry	57.90	1000sqft	1.33	57,903.00	0
Parking Lot	43.07	Acre	43.07	1,876,275.00	0
Health Club	608.11	1000sqft	13.96	608,110.00	0
Apartments Low Rise	440.00	Dwelling Unit	27.50	660,000.00	550
Apartments Mid Rise	1,257.00	Dwelling Unit	33.08	1,885,000.00	8500

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	4			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	77.8	CH4 Intensity (lb/MWhr)	0.005	N2O Intensity (lb/MWhr)	0.001

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - UCSC Electricity Emission Factors for 2040 reflect State averages.

Land Use - Values specified in Project Description

Construction Phase - This file is for operational emissions, so construction phases are removed.

Off-road Equipment -

Off-road Equipment - This file is for operational emissions, so construction phases are removed.

Off-road Equipment -

Trips and VMT -

On-road Fugitive Dust -

Demolition -

Architectural Coating -

Vehicle Trips - Adjusted trip length so that avg annual VMT matches VMT in Traffic Study per MM 3.16-1.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Woodstoves -

Consumer Products -

Area Coating -

Energy Use - Energy intensity rates adjusted to 2019 Title 24 standards.

Water And Wastewater -

Solid Waste -

Sequestration - Using Pine as substitute for redwood trees. 22 trees/acre.

Construction Off-road Equipment Mitigation -

Area Mitigation - Zero-VOC paints and coatings (5 g/L), low-VOC cleaning supplies. 100% electric lawn and garden equipment.

Energy Mitigation -

Fleet Mix -

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Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1,541,912.00	1,027,942.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	4,625,736.00	3,083,825.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,717,875.00	1,145,475.00
tblArchitecturalCoating	ConstArea_Residential_Interior	5,153,625.00	3,436,425.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	5
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	5
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	150	5
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	5
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	5
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	1.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblEnergyUse	T24E	365.68	244.86
tblEnergyUse	T24E	332.81	222.85
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	2.73	2.59
tblEnergyUse	T24NG	7,043.85	4,716.56

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tblEnergyUse	T24NG	5,484.45	3,672.39
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	20.83	19.79
tblGrading	AcresOfGrading	0.00	775.00
tblLandUse	LandUseSquareFeet	1,127,370.00	1,127,373.00
tblLandUse	LandUseSquareFeet	1,742,767.59	1,290,438.00
tblLandUse	LandUseSquareFeet	57,900.00	57,903.00
tblLandUse	LandUseSquareFeet	1,876,129.20	1,876,275.00
tblLandUse	LandUseSquareFeet	440,000.00	660,000.00
tblLandUse	LandUseSquareFeet	1,257,000.00	1,885,000.00
tblLandUse	Population	1,258.00	550.00
tblLandUse	Population	3,595.00	8,500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.005
tblProjectCharacteristics	CO2IntensityFactor	641.35	77.8
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.001
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSequestration	NumberOfNewTrees	0.00	-3,386.00
tblSolidWaste	SolidWasteGenerationRate	71.80	47.86
tblSolidWaste	SolidWasteGenerationRate	3,466.23	2,310.84
tblSolidWaste	SolidWasteGenerationRate	85.67	57.11

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tblTripsAndVMT	VendorTripNumber	994.00	826.00
tblTripsAndVMT	WorkerTripNumber	3,192.00	2,798.00
tblTripsAndVMT	WorkerTripNumber	638.00	560.00
tblVehicleEF	HHD	0.24	0.19
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.31	54.39
tblVehicleEF	HHD	1.00	0.41
tblVehicleEF	HHD	3.88	7.9690e-003
tblVehicleEF	HHD	3,651.43	7,280.05
tblVehicleEF	HHD	1,576.81	1,181.05
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.60	45.97
tblVehicleEF	HHD	1.50	2.41
tblVehicleEF	HHD	19.34	3.06
tblVehicleEF	HHD	3.4070e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.2590e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	8.2000e-005	2.7000e-005
tblVehicleEF	HHD	4.5610e-003	7.4000e-005

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tblVehicleEF	HHD	0.34	3.69
tblVehicleEF	HHD	5.4000e-005	1.8000e-005
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	5.9400e-004	3.7800e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7400e-004	1.0000e-006
tblVehicleEF	HHD	8.2000e-005	2.7000e-005
tblVehicleEF	HHD	4.5610e-003	7.4000e-005
tblVehicleEF	HHD	0.39	4.21
tblVehicleEF	HHD	5.4000e-005	1.8000e-005
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	5.9400e-004	3.7800e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.23	0.20
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	0.95	53.65
tblVehicleEF	HHD	1.02	0.42
tblVehicleEF	HHD	3.53	7.2410e-003
tblVehicleEF	HHD	3,868.33	7,196.62
tblVehicleEF	HHD	1,576.81	1,181.06
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.98	43.90
tblVehicleEF	HHD	1.44	2.33
tblVehicleEF	HHD	19.32	3.06

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tblVehicleEF	HHD	2.8760e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	2.7520e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	5.3000e-005
tblVehicleEF	HHD	4.6920e-003	7.6000e-005
tblVehicleEF	HHD	0.32	3.90
tblVehicleEF	HHD	1.0600e-004	3.5000e-005
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	5.5500e-004	3.5300e-004
tblVehicleEF	HHD	0.06	2.0000e-006
tblVehicleEF	HHD	0.04	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.6800e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	5.3000e-005
tblVehicleEF	HHD	4.6920e-003	7.6000e-005
tblVehicleEF	HHD	0.37	4.46
tblVehicleEF	HHD	1.0600e-004	3.5000e-005
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	5.5500e-004	3.5300e-004
tblVehicleEF	HHD	0.07	2.0000e-006

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tblVehicleEF	HHD	0.26	0.17
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.80	55.42
tblVehicleEF	HHD	0.99	0.41
tblVehicleEF	HHD	4.21	8.6450e-003
tblVehicleEF	HHD	3,351.89	7,395.27
tblVehicleEF	HHD	1,576.81	1,181.05
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.09	48.82
tblVehicleEF	HHD	1.52	2.44
tblVehicleEF	HHD	19.36	3.06
tblVehicleEF	HHD	4.1390e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.9600e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	4.1000e-005	1.4000e-005
tblVehicleEF	HHD	4.6400e-003	7.5000e-005
tblVehicleEF	HHD	0.37	3.39
tblVehicleEF	HHD	2.1000e-005	7.0000e-006
tblVehicleEF	HHD	0.08	0.02

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tblVehicleEF	HHD	6.7000e-004	4.2700e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7900e-004	1.0000e-006
tblVehicleEF	HHD	4.1000e-005	1.4000e-005
tblVehicleEF	HHD	4.6400e-003	7.5000e-005
tblVehicleEF	HHD	0.42	3.87
tblVehicleEF	HHD	2.1000e-005	7.0000e-006
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	6.7000e-004	4.2700e-004
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	LDA	1.6390e-003	7.5900e-004
tblVehicleEF	LDA	9.0100e-004	0.02
tblVehicleEF	LDA	0.29	0.39
tblVehicleEF	LDA	0.44	1.56
tblVehicleEF	LDA	168.86	206.82
tblVehicleEF	LDA	36.04	41.63
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.12
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	8.1950e-003	0.06
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	7.7480e-003	0.06

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tblVehicleEF	LDA	4.1300e-003	2.3880e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.01	0.08
tblVehicleEF	LDA	1.6890e-003	1.8340e-003
tblVehicleEF	LDA	3.6700e-004	3.6900e-004
tblVehicleEF	LDA	8.1950e-003	0.06
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	7.7480e-003	0.06
tblVehicleEF	LDA	6.0000e-003	3.4550e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDA	1.7670e-003	8.3200e-004
tblVehicleEF	LDA	7.5200e-004	0.02
tblVehicleEF	LDA	0.32	0.44
tblVehicleEF	LDA	0.34	1.23
tblVehicleEF	LDA	177.42	217.05
tblVehicleEF	LDA	36.04	41.01
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	4.4460e-003	2.5670e-003

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tblVehicleEF	LDA	0.03	0.14
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.7750e-003	1.9240e-003
tblVehicleEF	LDA	3.6500e-004	3.6300e-004
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	6.4610e-003	3.7160e-003
tblVehicleEF	LDA	0.03	0.14
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.6100e-003	7.3600e-004
tblVehicleEF	LDA	1.0270e-003	0.02
tblVehicleEF	LDA	0.29	0.40
tblVehicleEF	LDA	0.51	1.82
tblVehicleEF	LDA	168.71	206.65
tblVehicleEF	LDA	36.04	42.12
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	3.5800e-003	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	2.4830e-003	0.02
tblVehicleEF	LDA	4.0590e-003	2.3470e-003
tblVehicleEF	LDA	0.03	0.20

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tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDA	1.6880e-003	1.8320e-003
tblVehicleEF	LDA	3.6800e-004	3.7300e-004
tblVehicleEF	LDA	3.5800e-003	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	2.4830e-003	0.02
tblVehicleEF	LDA	5.8960e-003	3.3960e-003
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.02	0.10
tblVehicleEF	LDT1	1.9070e-003	9.4600e-004
tblVehicleEF	LDT1	1.2100e-003	0.03
tblVehicleEF	LDT1	0.32	0.43
tblVehicleEF	LDT1	0.51	1.75
tblVehicleEF	LDT1	209.63	252.15
tblVehicleEF	LDT1	45.37	51.97
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.02	0.15
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	4.7310e-003	3.0380e-003
tblVehicleEF	LDT1	0.03	0.28
tblVehicleEF	LDT1	0.02	0.10

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tblVehicleEF	LDT1	2.0980e-003	2.2340e-003
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	6.8990e-003	4.4320e-003
tblVehicleEF	LDT1	0.03	0.28
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT1	2.0550e-003	1.0350e-003
tblVehicleEF	LDT1	1.0090e-003	0.02
tblVehicleEF	LDT1	0.35	0.47
tblVehicleEF	LDT1	0.40	1.37
tblVehicleEF	LDT1	220.22	262.77
tblVehicleEF	LDT1	45.37	51.26
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	0.02	0.24
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.02	0.23
tblVehicleEF	LDT1	5.0950e-003	3.2690e-003
tblVehicleEF	LDT1	0.03	0.25
tblVehicleEF	LDT1	0.01	0.08
tblVehicleEF	LDT1	2.2040e-003	2.3280e-003
tblVehicleEF	LDT1	4.6000e-004	4.5400e-004

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tblVehicleEF	LDT1	0.02	0.24
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.02	0.23
tblVehicleEF	LDT1	7.4310e-003	4.7690e-003
tblVehicleEF	LDT1	0.03	0.25
tblVehicleEF	LDT1	0.01	0.09
tblVehicleEF	LDT1	1.8740e-003	9.1700e-004
tblVehicleEF	LDT1	1.3790e-003	0.03
tblVehicleEF	LDT1	0.32	0.43
tblVehicleEF	LDT1	0.60	2.04
tblVehicleEF	LDT1	209.45	251.97
tblVehicleEF	LDT1	45.37	52.53
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.16
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	5.0240e-003	0.06
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	3.4640e-003	0.04
tblVehicleEF	LDT1	4.6480e-003	2.9850e-003
tblVehicleEF	LDT1	0.04	0.33
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT1	2.0960e-003	2.2330e-003
tblVehicleEF	LDT1	4.6300e-004	4.6500e-004
tblVehicleEF	LDT1	5.0240e-003	0.06

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tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	3.4640e-003	0.04
tblVehicleEF	LDT1	6.7780e-003	4.3540e-003
tblVehicleEF	LDT1	0.04	0.33
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT2	2.8190e-003	1.2600e-003
tblVehicleEF	LDT2	2.3310e-003	0.03
tblVehicleEF	LDT2	0.47	0.50
tblVehicleEF	LDT2	0.79	2.20
tblVehicleEF	LDT2	252.42	252.46
tblVehicleEF	LDT2	55.17	53.02
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.15
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.02	0.15
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.02	0.16
tblVehicleEF	LDT2	7.0170e-003	4.4720e-003
tblVehicleEF	LDT2	0.05	0.28
tblVehicleEF	LDT2	0.03	0.13
tblVehicleEF	LDT2	2.5270e-003	2.2380e-003
tblVehicleEF	LDT2	5.6400e-004	4.7000e-004
tblVehicleEF	LDT2	0.02	0.15
tblVehicleEF	LDT2	0.07	0.07

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tblVehicleEF	LDT2	0.02	0.16
tblVehicleEF	LDT2	0.01	6.4570e-003
tblVehicleEF	LDT2	0.05	0.28
tblVehicleEF	LDT2	0.03	0.15
tblVehicleEF	LDT2	3.0340e-003	1.3780e-003
tblVehicleEF	LDT2	1.9960e-003	0.03
tblVehicleEF	LDT2	0.52	0.55
tblVehicleEF	LDT2	0.66	1.72
tblVehicleEF	LDT2	264.93	262.08
tblVehicleEF	LDT2	55.17	52.11
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.04	0.13
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.05	0.32
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.04	0.29
tblVehicleEF	LDT2	7.5500e-003	4.7960e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.03	0.11
tblVehicleEF	LDT2	2.6530e-003	2.3240e-003
tblVehicleEF	LDT2	5.6200e-004	4.6200e-004
tblVehicleEF	LDT2	0.05	0.32
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.04	0.29

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tblVehicleEF	LDT2	0.01	6.9310e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	2.7690e-003	1.2220e-003
tblVehicleEF	LDT2	2.6130e-003	0.04
tblVehicleEF	LDT2	0.48	0.51
tblVehicleEF	LDT2	0.90	2.58
tblVehicleEF	LDT2	252.21	252.31
tblVehicleEF	LDT2	55.17	53.73
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.16
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.01	0.07
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	7.6010e-003	0.05
tblVehicleEF	LDT2	6.8940e-003	4.3970e-003
tblVehicleEF	LDT2	0.07	0.34
tblVehicleEF	LDT2	0.04	0.15
tblVehicleEF	LDT2	2.5250e-003	2.2370e-003
tblVehicleEF	LDT2	5.6600e-004	4.7600e-004
tblVehicleEF	LDT2	0.01	0.07
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	7.6010e-003	0.05
tblVehicleEF	LDT2	0.01	6.3480e-003

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tblVehicleEF	LDT2	0.07	0.34
tblVehicleEF	LDT2	0.04	0.17
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.3310e-003	3.9600e-003
tblVehicleEF	LHD1	8.2940e-003	7.2240e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.47	0.37
tblVehicleEF	LHD1	1.29	0.76
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.76
tblVehicleEF	LHD1	27.02	8.68
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.42	0.20
tblVehicleEF	LHD1	0.57	0.19
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003
tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	1.2360e-003	0.01
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	8.0900e-004	9.2900e-003
tblVehicleEF	LHD1	0.09	0.06

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tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9400e-004	8.6000e-005
tblVehicleEF	LHD1	1.2360e-003	0.01
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	8.0900e-004	9.2900e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.3890e-003	4.0070e-003
tblVehicleEF	LHD1	7.7400e-003	6.7790e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.47	0.38
tblVehicleEF	LHD1	1.18	0.70
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.76
tblVehicleEF	LHD1	27.02	8.57
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.41	0.19
tblVehicleEF	LHD1	0.53	0.17
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003

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tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	2.3600e-003	0.03
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	1.5530e-003	0.02
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.14	0.22
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9200e-004	8.5000e-005
tblVehicleEF	LHD1	2.3600e-003	0.03
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	1.5530e-003	0.02
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.14	0.22
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.2920e-003	3.9290e-003
tblVehicleEF	LHD1	8.7320e-003	7.5750e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.46	0.37

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tblVehicleEF	LHD1	1.39	0.82
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.75
tblVehicleEF	LHD1	27.02	8.78
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.43	0.20
tblVehicleEF	LHD1	0.61	0.20
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003
tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	6.2900e-004	7.2020e-003
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	3.1500e-004	3.5920e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9500e-004	8.7000e-005
tblVehicleEF	LHD1	6.2900e-004	7.2020e-003
tblVehicleEF	LHD1	0.07	0.05

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tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	3.1500e-004	3.5920e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	0.13	0.04
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7450e-003	5.0520e-003
tblVehicleEF	LHD2	2.1760e-003	3.0390e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.84	0.38
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.02
tblVehicleEF	LHD2	21.05	4.98
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.33
tblVehicleEF	LHD2	0.20	0.09
tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	3.7200e-004	5.8640e-003
tblVehicleEF	LHD2	0.01	0.02

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tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	2.4200e-004	3.8700e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003
tblVehicleEF	LHD2	2.2400e-004	4.9000e-005
tblVehicleEF	LHD2	3.7200e-004	5.8640e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	2.4200e-004	3.8700e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7720e-003	5.0740e-003
tblVehicleEF	LHD2	2.1430e-003	2.8520e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.77	0.35
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.02
tblVehicleEF	LHD2	21.05	4.93
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.32
tblVehicleEF	LHD2	0.19	0.08

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tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	7.3200e-004	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	4.7800e-004	7.5310e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003
tblVehicleEF	LHD2	2.2300e-004	4.9000e-005
tblVehicleEF	LHD2	7.3200e-004	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	4.7800e-004	7.5310e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7280e-003	5.0370e-003

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tblVehicleEF	LHD2	2.2020e-003	3.1870e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.90	0.41
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.01
tblVehicleEF	LHD2	21.05	5.03
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.34
tblVehicleEF	LHD2	0.20	0.09
tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	1.8500e-004	2.9740e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	9.3000e-005	1.4940e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003

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tblVehicleEF	LHD2	2.2500e-004	5.0000e-005
tblVehicleEF	LHD2	1.8500e-004	2.9740e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	9.3000e-005	1.4940e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	MCY	0.53	0.36
tblVehicleEF	MCY	0.17	0.26
tblVehicleEF	MCY	18.33	18.38
tblVehicleEF	MCY	10.94	9.75
tblVehicleEF	MCY	182.27	219.06
tblVehicleEF	MCY	43.71	61.12
tblVehicleEF	MCY	1.18	1.19
tblVehicleEF	MCY	0.32	0.28
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	0.75	1.56
tblVehicleEF	MCY	0.74	0.77
tblVehicleEF	MCY	0.37	0.77
tblVehicleEF	MCY	2.48	2.49
tblVehicleEF	MCY	0.47	1.31
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MCY	2.1980e-003	2.1680e-003

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tblVehicleEF	MCY	6.8200e-004	6.0500e-004
tblVehicleEF	MCY	0.75	1.56
tblVehicleEF	MCY	0.74	0.77
tblVehicleEF	MCY	0.37	0.77
tblVehicleEF	MCY	3.10	3.11
tblVehicleEF	MCY	0.47	1.31
tblVehicleEF	MCY	2.46	2.19
tblVehicleEF	MCY	0.51	0.35
tblVehicleEF	MCY	0.14	0.21
tblVehicleEF	MCY	16.96	17.00
tblVehicleEF	MCY	9.17	8.10
tblVehicleEF	MCY	182.27	216.52
tblVehicleEF	MCY	43.71	57.27
tblVehicleEF	MCY	1.05	1.05
tblVehicleEF	MCY	0.30	0.25
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	1.84	3.79
tblVehicleEF	MCY	0.88	0.92
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	2.39	2.39
tblVehicleEF	MCY	0.41	1.15
tblVehicleEF	MCY	1.86	1.64
tblVehicleEF	MCY	2.1730e-003	2.1430e-003
tblVehicleEF	MCY	6.4100e-004	5.6700e-004

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tblVehicleEF	MCY	1.84	3.79
tblVehicleEF	MCY	0.88	0.92
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	2.98	2.99
tblVehicleEF	MCY	0.41	1.15
tblVehicleEF	MCY	2.02	1.78
tblVehicleEF	MCY	0.54	0.37
tblVehicleEF	MCY	0.19	0.30
tblVehicleEF	MCY	19.75	19.80
tblVehicleEF	MCY	12.83	11.48
tblVehicleEF	MCY	182.27	221.65
tblVehicleEF	MCY	43.71	65.04
tblVehicleEF	MCY	1.26	1.26
tblVehicleEF	MCY	0.35	0.30
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	0.22	0.45
tblVehicleEF	MCY	0.83	0.87
tblVehicleEF	MCY	0.11	0.22
tblVehicleEF	MCY	2.57	2.58
tblVehicleEF	MCY	0.58	1.61
tblVehicleEF	MCY	2.65	2.36
tblVehicleEF	MCY	2.2240e-003	2.1930e-003
tblVehicleEF	MCY	7.2500e-004	6.4400e-004
tblVehicleEF	MCY	0.22	0.45

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tblVehicleEF	MCY	0.83	0.87
tblVehicleEF	MCY	0.11	0.22
tblVehicleEF	MCY	3.21	3.22
tblVehicleEF	MCY	0.58	1.61
tblVehicleEF	MCY	2.88	2.57
tblVehicleEF	MDV	4.6980e-003	1.3630e-003
tblVehicleEF	MDV	6.0110e-003	0.03
tblVehicleEF	MDV	0.64	0.51
tblVehicleEF	MDV	1.36	2.26
tblVehicleEF	MDV	339.26	305.96
tblVehicleEF	MDV	73.02	62.75
tblVehicleEF	MDV	0.07	0.03
tblVehicleEF	MDV	0.12	0.17
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.01	4.9950e-003
tblVehicleEF	MDV	0.08	0.29
tblVehicleEF	MDV	0.08	0.15
tblVehicleEF	MDV	3.3930e-003	2.7170e-003
tblVehicleEF	MDV	7.5300e-004	5.5600e-004
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.13	0.09

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tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.02	7.1990e-003
tblVehicleEF	MDV	0.08	0.29
tblVehicleEF	MDV	0.09	0.16
tblVehicleEF	MDV	5.0540e-003	1.4900e-003
tblVehicleEF	MDV	5.0610e-003	0.03
tblVehicleEF	MDV	0.70	0.56
tblVehicleEF	MDV	1.10	1.76
tblVehicleEF	MDV	355.62	315.48
tblVehicleEF	MDV	73.02	61.81
tblVehicleEF	MDV	0.06	0.03
tblVehicleEF	MDV	0.11	0.15
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.09	0.39
tblVehicleEF	MDV	0.01	5.3540e-003
tblVehicleEF	MDV	0.07	0.26
tblVehicleEF	MDV	0.07	0.12
tblVehicleEF	MDV	3.5580e-003	2.8010e-003
tblVehicleEF	MDV	7.4800e-004	5.4800e-004
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.09	0.39

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tblVehicleEF	MDV	0.02	7.7230e-003
tblVehicleEF	MDV	0.07	0.26
tblVehicleEF	MDV	0.07	0.13
tblVehicleEF	MDV	4.6150e-003	1.3220e-003
tblVehicleEF	MDV	6.8120e-003	0.04
tblVehicleEF	MDV	0.64	0.51
tblVehicleEF	MDV	1.56	2.64
tblVehicleEF	MDV	338.97	305.81
tblVehicleEF	MDV	73.02	63.49
tblVehicleEF	MDV	0.07	0.03
tblVehicleEF	MDV	0.13	0.18
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	0.01	4.9120e-003
tblVehicleEF	MDV	0.10	0.35
tblVehicleEF	MDV	0.09	0.17
tblVehicleEF	MDV	3.3900e-003	2.7150e-003
tblVehicleEF	MDV	7.5700e-004	5.6300e-004
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	0.02	7.0780e-003

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tblVehicleEF	MDV	0.10	0.35
tblVehicleEF	MDV	0.10	0.18
tblVehicleEF	MH	5.4220e-003	4.1740e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.26	0.23
tblVehicleEF	MH	3.31	1.50
tblVehicleEF	MH	1,176.44	1,266.18
tblVehicleEF	MH	55.59	14.09
tblVehicleEF	MH	0.77	1.12
tblVehicleEF	MH	0.58	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.14	0.01
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	3.9420e-003	0.24
tblVehicleEF	MH	0.20	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1400e-004	1.3900e-004
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.14	0.01

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tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	3.9420e-003	0.24
tblVehicleEF	MH	0.22	0.08
tblVehicleEF	MH	5.6040e-003	4.2710e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.27	0.23
tblVehicleEF	MH	3.00	1.37
tblVehicleEF	MH	1,176.44	1,266.19
tblVehicleEF	MH	55.59	13.86
tblVehicleEF	MH	0.73	1.08
tblVehicleEF	MH	0.53	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.54	0.04
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	3.7600e-003	0.23
tblVehicleEF	MH	0.19	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.0800e-004	1.3700e-004
tblVehicleEF	MH	0.54	0.04
tblVehicleEF	MH	0.03	0.02

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tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	3.7600e-003	0.23
tblVehicleEF	MH	0.21	0.07
tblVehicleEF	MH	5.3060e-003	4.1110e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.26	0.22
tblVehicleEF	MH	3.62	1.65
tblVehicleEF	MH	1,176.44	1,266.18
tblVehicleEF	MH	55.59	14.33
tblVehicleEF	MH	0.78	1.14
tblVehicleEF	MH	0.62	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.15	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.06	4.9680e-003
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	4.3120e-003	0.26
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1900e-004	1.4200e-004
tblVehicleEF	MH	0.15	0.01

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tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.06	4.9680e-003
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	4.3120e-003	0.26
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2480e-003	7.7200e-004
tblVehicleEF	MHD	0.03	3.1220e-003
tblVehicleEF	MHD	0.26	3.73
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	1.99	0.30
tblVehicleEF	MHD	178.42	592.23
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.93
tblVehicleEF	MHD	0.49	3.22
tblVehicleEF	MHD	1.08	1.49
tblVehicleEF	MHD	14.07	1.96
tblVehicleEF	MHD	5.8000e-005	9.6200e-004
tblVehicleEF	MHD	3.0680e-003	7.5170e-003
tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	5.6000e-005	9.2100e-004
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	3.1900e-004	1.7150e-003
tblVehicleEF	MHD	0.02	5.0230e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	2.1000e-004	1.1250e-003

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tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	7.1260e-003	0.03
tblVehicleEF	MHD	0.13	0.02
tblVehicleEF	MHD	1.7100e-003	5.6140e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	4.0000e-004	2.9000e-005
tblVehicleEF	MHD	3.1900e-004	1.7150e-003
tblVehicleEF	MHD	0.02	5.0230e-003
tblVehicleEF	MHD	0.03	0.21
tblVehicleEF	MHD	2.1000e-004	1.1250e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	7.1260e-003	0.03
tblVehicleEF	MHD	0.14	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2610e-003	7.8700e-004
tblVehicleEF	MHD	0.03	2.9270e-003
tblVehicleEF	MHD	0.17	3.16
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	1.81	0.27
tblVehicleEF	MHD	189.21	587.50
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.89
tblVehicleEF	MHD	0.50	3.07
tblVehicleEF	MHD	1.05	1.44
tblVehicleEF	MHD	14.05	1.96
tblVehicleEF	MHD	4.9000e-005	8.4500e-004
tblVehicleEF	MHD	3.0680e-003	7.5170e-003

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tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	4.7000e-005	8.0900e-004
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	6.2200e-004	3.3590e-003
tblVehicleEF	MHD	0.02	5.1730e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	4.1100e-004	2.2120e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	6.6650e-003	0.02
tblVehicleEF	MHD	0.12	0.01
tblVehicleEF	MHD	1.8120e-003	5.5700e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	3.9700e-004	2.9000e-005
tblVehicleEF	MHD	6.2200e-004	3.3590e-003
tblVehicleEF	MHD	0.02	5.1730e-003
tblVehicleEF	MHD	0.02	0.20
tblVehicleEF	MHD	4.1100e-004	2.2120e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	6.6650e-003	0.02
tblVehicleEF	MHD	0.13	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2400e-003	7.6200e-004
tblVehicleEF	MHD	0.03	3.2720e-003
tblVehicleEF	MHD	0.33	4.16
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	2.16	0.32

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tblVehicleEF	MHD	163.98	600.32
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.98
tblVehicleEF	MHD	0.47	3.41
tblVehicleEF	MHD	1.10	1.51
tblVehicleEF	MHD	14.09	1.96
tblVehicleEF	MHD	7.1000e-005	1.1240e-003
tblVehicleEF	MHD	3.0680e-003	7.5170e-003
tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	6.8000e-005	1.0750e-003
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	1.6100e-004	8.6100e-004
tblVehicleEF	MHD	0.02	5.1140e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	8.1000e-005	4.3200e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	8.0270e-003	0.03
tblVehicleEF	MHD	0.14	0.02
tblVehicleEF	MHD	1.5730e-003	5.6900e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	4.0300e-004	2.9000e-005
tblVehicleEF	MHD	1.6100e-004	8.6100e-004
tblVehicleEF	MHD	0.02	5.1140e-003
tblVehicleEF	MHD	0.03	0.21
tblVehicleEF	MHD	8.1000e-005	4.3200e-004
tblVehicleEF	MHD	0.05	0.01

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tblVehicleEF	MHD	8.0270e-003	0.03
tblVehicleEF	MHD	0.15	0.02
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.4180e-003	3.2250e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	9.37
tblVehicleEF	OBUS	0.29	0.33
tblVehicleEF	OBUS	4.36	1.53
tblVehicleEF	OBUS	87.86	1,204.87
tblVehicleEF	OBUS	1,290.02	1,289.82
tblVehicleEF	OBUS	67.94	12.35
tblVehicleEF	OBUS	0.19	5.49
tblVehicleEF	OBUS	0.65	1.10
tblVehicleEF	OBUS	1.75	1.20
tblVehicleEF	OBUS	1.7000e-005	1.8470e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	1.7000e-005	1.7670e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003
tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	1.1160e-003	0.02
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.79
tblVehicleEF	OBUS	5.5400e-004	0.01
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.24
tblVehicleEF	OBUS	0.28	0.08

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tblVehicleEF	OBUS	8.5000e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.5600e-004	1.2200e-004
tblVehicleEF	OBUS	1.1160e-003	0.02
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	1.03
tblVehicleEF	OBUS	5.5400e-004	0.01
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.05	0.24
tblVehicleEF	OBUS	0.31	0.08
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.5470e-003	3.3510e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	9.29
tblVehicleEF	OBUS	0.30	0.34
tblVehicleEF	OBUS	3.96	1.39
tblVehicleEF	OBUS	92.09	1,190.97
tblVehicleEF	OBUS	1,290.02	1,289.84
tblVehicleEF	OBUS	67.94	12.11
tblVehicleEF	OBUS	0.19	5.22
tblVehicleEF	OBUS	0.62	1.06
tblVehicleEF	OBUS	1.69	1.18
tblVehicleEF	OBUS	1.5000e-005	1.6410e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	1.4000e-005	1.5700e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003

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tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	2.1480e-003	0.04
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.81
tblVehicleEF	OBUS	1.1070e-003	0.02
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.23
tblVehicleEF	OBUS	0.26	0.07
tblVehicleEF	OBUS	8.9100e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.4900e-004	1.2000e-004
tblVehicleEF	OBUS	2.1480e-003	0.04
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	1.06
tblVehicleEF	OBUS	1.1070e-003	0.02
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.05	0.23
tblVehicleEF	OBUS	0.29	0.08
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.3350e-003	3.1420e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.26	9.48
tblVehicleEF	OBUS	0.29	0.32
tblVehicleEF	OBUS	4.78	1.68
tblVehicleEF	OBUS	82.02	1,224.08
tblVehicleEF	OBUS	1,290.02	1,289.81
tblVehicleEF	OBUS	67.94	12.60

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tblVehicleEF	OBUS	0.18	5.87
tblVehicleEF	OBUS	0.66	1.12
tblVehicleEF	OBUS	1.79	1.21
tblVehicleEF	OBUS	2.1000e-005	2.1310e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	2.0000e-005	2.0390e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003
tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	5.9200e-004	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.76
tblVehicleEF	OBUS	2.4400e-004	4.9660e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.06	0.26
tblVehicleEF	OBUS	0.30	0.08
tblVehicleEF	OBUS	7.9500e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6300e-004	1.2500e-004
tblVehicleEF	OBUS	5.9200e-004	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.99
tblVehicleEF	OBUS	2.4400e-004	4.9660e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.06	0.26
tblVehicleEF	OBUS	0.33	0.09
tblVehicleEF	SBUS	0.84	0.59

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tblVehicleEF	SBUS	3.2920e-003	1.4860e-003
tblVehicleEF	SBUS	0.06	0.01
tblVehicleEF	SBUS	5.90	27.54
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	4.75	1.82
tblVehicleEF	SBUS	1,123.21	2,870.44
tblVehicleEF	SBUS	1,068.95	883.72
tblVehicleEF	SBUS	40.19	9.64
tblVehicleEF	SBUS	2.65	12.99
tblVehicleEF	SBUS	1.03	1.50
tblVehicleEF	SBUS	14.15	1.63
tblVehicleEF	SBUS	2.0500e-004	3.2780e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	1.9700e-004	3.1360e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003
tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	2.3390e-003	5.5350e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.72	2.70
tblVehicleEF	SBUS	1.1850e-003	2.7720e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.11
tblVehicleEF	SBUS	0.25	0.07
tblVehicleEF	SBUS	0.01	0.03

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tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	4.8400e-004	9.5000e-005
tblVehicleEF	SBUS	2.3390e-003	5.5350e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.04	3.88
tblVehicleEF	SBUS	1.1850e-003	2.7720e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.11
tblVehicleEF	SBUS	0.28	0.08
tblVehicleEF	SBUS	0.84	0.59
tblVehicleEF	SBUS	3.3440e-003	1.5120e-003
tblVehicleEF	SBUS	0.05	0.01
tblVehicleEF	SBUS	5.85	27.39
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	3.52	1.35
tblVehicleEF	SBUS	1,178.17	2,850.52
tblVehicleEF	SBUS	1,068.95	883.73
tblVehicleEF	SBUS	40.19	8.86
tblVehicleEF	SBUS	2.73	12.48
tblVehicleEF	SBUS	0.99	1.44
tblVehicleEF	SBUS	14.12	1.62
tblVehicleEF	SBUS	1.7300e-004	2.8970e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	1.6600e-004	2.7720e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003

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tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	4.4490e-003	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.72	2.72
tblVehicleEF	SBUS	2.3340e-003	5.5170e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	0.21	0.06
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	4.6400e-004	8.8000e-005
tblVehicleEF	SBUS	4.4490e-003	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	1.04	3.89
tblVehicleEF	SBUS	2.3340e-003	5.5170e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	0.23	0.07
tblVehicleEF	SBUS	0.84	0.59
tblVehicleEF	SBUS	3.2550e-003	1.4670e-003
tblVehicleEF	SBUS	0.06	0.02
tblVehicleEF	SBUS	5.97	27.75
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	6.14	2.35
tblVehicleEF	SBUS	1,047.32	2,897.95
tblVehicleEF	SBUS	1,068.95	883.72

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tblVehicleEF	SBUS	40.19	10.52
tblVehicleEF	SBUS	2.53	13.69
tblVehicleEF	SBUS	1.04	1.51
tblVehicleEF	SBUS	14.17	1.64
tblVehicleEF	SBUS	2.5000e-004	3.8030e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	2.3900e-004	3.6390e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003
tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	1.2710e-003	2.9600e-003
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.72	2.69
tblVehicleEF	SBUS	5.2800e-004	1.2260e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.02	0.13
tblVehicleEF	SBUS	0.29	0.08
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	5.0700e-004	1.0400e-004
tblVehicleEF	SBUS	1.2710e-003	2.9600e-003
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	1.04	3.86
tblVehicleEF	SBUS	5.2800e-004	1.2260e-003
tblVehicleEF	SBUS	0.05	0.02

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tblVehicleEF	SBUS	0.02	0.13
tblVehicleEF	SBUS	0.32	0.09
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.07	1.6310e-003
tblVehicleEF	UBUS	3.30	27.63
tblVehicleEF	UBUS	8.69	0.15
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.26
tblVehicleEF	UBUS	2.76	0.55
tblVehicleEF	UBUS	12.33	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	3.2160e-003	9.2000e-005
tblVehicleEF	UBUS	0.06	3.2100e-004
tblVehicleEF	UBUS	2.1090e-003	5.1000e-005
tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.02	1.9470e-003
tblVehicleEF	UBUS	0.90	7.5660e-003
tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.5900e-003	1.2000e-005
tblVehicleEF	UBUS	3.2160e-003	9.2000e-005

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tblVehicleEF	UBUS	0.06	3.2100e-004
tblVehicleEF	UBUS	2.1090e-003	5.1000e-005
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.02	1.9470e-003
tblVehicleEF	UBUS	0.99	8.2830e-003
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.06	1.4450e-003
tblVehicleEF	UBUS	3.31	27.63
tblVehicleEF	UBUS	6.96	0.12
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.21
tblVehicleEF	UBUS	2.65	0.55
tblVehicleEF	UBUS	12.22	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	5.9070e-003	1.9800e-004
tblVehicleEF	UBUS	0.07	3.5800e-004
tblVehicleEF	UBUS	4.1490e-003	1.2400e-004
tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.02	1.6760e-003
tblVehicleEF	UBUS	0.79	6.6320e-003

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tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.5600e-003	1.2000e-005
tblVehicleEF	UBUS	5.9070e-003	1.9800e-004
tblVehicleEF	UBUS	0.07	3.5800e-004
tblVehicleEF	UBUS	4.1490e-003	1.2400e-004
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.02	1.6760e-003
tblVehicleEF	UBUS	0.86	7.2610e-003
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.07	1.7860e-003
tblVehicleEF	UBUS	3.29	27.63
tblVehicleEF	UBUS	10.37	0.17
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.30
tblVehicleEF	UBUS	2.79	0.55
tblVehicleEF	UBUS	12.42	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	1.7240e-003	3.8000e-005
tblVehicleEF	UBUS	0.06	3.4400e-004
tblVehicleEF	UBUS	9.9800e-004	2.0000e-005

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tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.03	2.4500e-003
tblVehicleEF	UBUS	0.99	8.3520e-003
tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.6200e-003	1.3000e-005
tblVehicleEF	UBUS	1.7240e-003	3.8000e-005
tblVehicleEF	UBUS	0.06	3.4400e-004
tblVehicleEF	UBUS	9.9800e-004	2.0000e-005
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.03	2.4500e-003
tblVehicleEF	UBUS	1.09	9.1440e-003
tblVehicleTrips	CC_TTP	88.60	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CW_TTP	6.40	0.00
tblVehicleTrips	HO_TL	7.90	0.00
tblVehicleTrips	HO_TL	7.90	0.00
tblVehicleTrips	HO_TL	0.00	6.89
tblVehicleTrips	HO_TTP	37.20	26.00
tblVehicleTrips	HO_TTP	37.20	26.00
tblVehicleTrips	HO_TTP	0.00	5.00
tblVehicleTrips	HS_TL	7.10	0.00
tblVehicleTrips	HS_TL	7.10	0.00
tblVehicleTrips	HS_TL	0.00	11.65
tblVehicleTrips	HS_TTP	18.80	50.00
tblVehicleTrips	HS_TTP	18.80	50.00
tblVehicleTrips	HS_TTP	0.00	88.00
tblVehicleTrips	HW_TL	16.80	0.00

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tblVehicleTrips	HW_TL	16.80	0.00
tblVehicleTrips	HW_TL	0.00	15.00
tblVehicleTrips	HW_TTP	44.00	24.00
tblVehicleTrips	HW_TTP	44.00	24.00
tblVehicleTrips	HW_TTP	0.00	7.00
tblVehicleTrips	ST_TR	7.16	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.42
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	0.00	0.42
tblVehicleTrips	WD_TR	6.59	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	1.21
tblWater	IndoorWaterUseRate	13,389,375.00	8,926,250.00
tblWater	IndoorWaterUseRate	35,965,537.32	23,977,222.02
tblWater	IndoorWaterUseRate	554,321,005.26	369,547,336.84
tblWater	OutdoorWaterUseRate	22,043,393.84	14,695,716.72

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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	0.0000	0.0000	0.0000	0.0000	1.1100e-003	0.0000	1.1100e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	7.7700e-003	0.0431	0.0621	2.5000e-004	0.0197	2.0000e-004	0.0199	5.2900e-003	1.8000e-004	5.4700e-003	0.0000	23.2139	23.2139	7.7000e-004	0.0000	23.2331
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	7.7700e-003	0.0431	0.0621	2.5000e-004	0.0197	2.0000e-004	0.0199	5.2900e-003	1.8000e-004	5.4700e-003	0.0000	23.2139	23.2139	7.7000e-004	0.0000	23.2331

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2.1 Overall Construction

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	0.0000	0.0000	0.0000	0.0000	1.1100e-003	0.0000	1.1100e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	7.7700e-003	0.0431	0.0621	2.5000e-004	0.0197	2.0000e-004	0.0199	5.2900e-003	1.8000e-004	5.4700e-003	0.0000	23.2139	23.2139	7.7000e-004	0.0000	23.2331
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	7.7700e-003	0.0431	0.0621	2.5000e-004	0.0197	2.0000e-004	0.0199	5.2900e-003	1.8000e-004	5.4700e-003	0.0000	23.2139	23.2139	7.7000e-004	0.0000	23.2331

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
10	4-3-2024	7-2-2024	0.1064	0.1064
		Highest	0.1064	0.1064

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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	26.4146	0.2024	17.5672	9.3000e-004		0.0976	0.0976		0.0976	0.0976	0.0000	28.8678	28.8678	0.0279	0.0000	29.5661
Energy	0.4711	4.2477	3.3380	0.0257		0.3255	0.3255		0.3255	0.3255	0.0000	5,801.9438	5,801.9438	0.1626	0.1001	5,835.8460
Mobile	2.9683	7.8312	31.8673	0.1026	13.6269	0.0583	13.6852	3.6468	0.0546	3.7014	0.0000	10,401.4452	10,401.4452	0.3891	0.0000	10,411.1738
Waste						0.0000	0.0000		0.0000	0.0000	1,000.1141	0.0000	1,000.1141	59.1051	0.0000	2,477.7405
Water						0.0000	0.0000		0.0000	0.0000	169.1976	116.1847	285.3822	17.3857	0.4118	842.7497
Total	29.8540	12.2813	52.7726	0.1292	13.6269	0.4814	14.1083	3.6468	0.4777	4.1244	1,169.3117	16,348.4416	17,517.7532	77.0704	0.5120	19,597.0761

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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	20.8954	0.1607	13.3210	6.1000e-004		0.0726	0.0726		0.0726	0.0726	0.0000	20.1552	20.1552	0.0146	0.0000	20.5188
Energy	0.4711	4.2477	3.3380	0.0257		0.3255	0.3255		0.3255	0.3255	0.0000	5,801.9438	5,801.9438	0.1626	0.1001	5,835.8460
Mobile	2.9683	7.8312	31.8673	0.1026	13.6269	0.0583	13.6852	3.6468	0.0546	3.7014	0.0000	10,401.4452	10,401.4452	0.3891	0.0000	10,411.1738
Waste						0.0000	0.0000		0.0000	0.0000	1,000.1141	0.0000	1,000.1141	59.1051	0.0000	2,477.7405
Water						0.0000	0.0000		0.0000	0.0000	169.1976	116.1847	285.3822	17.3857	0.4118	842.7497
Total	24.3349	12.2396	48.5263	0.1289	13.6269	0.4564	14.0834	3.6468	0.4527	4.0995	1,169.3117	16,339.7289	17,509.0406	77.0570	0.5120	19,588.0288

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	18.49	0.34	8.05	0.25	0.00	5.18	0.18	0.00	5.22	0.60	0.00	0.05	0.05	0.02	0.00	0.05

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	- 2,160.268 0
Total	- 2,160.268 0

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/2/2022	5	0	
2	Site Preparation	Site Preparation	10/8/2022	10/7/2022	5	0	
3	Grading	Grading	3/25/2023	3/24/2023	5	0	
4	Building Construction	Building Construction	6/1/2024	6/3/2024	5	1	
5	Paving	Paving	4/19/2036	4/18/2036	5	0	
6	Architectural Coating	Architectural Coating	2/21/2037	2/20/2037	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 43.07

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Residential Indoor: 3,436,425; Residential Outdoor: 1,145,475; Non-Residential Indoor: 3,083,825; Non-Residential Outdoor: 1,027,942; Striped Parking Area: 112,577 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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3.7 Architectural Coating - 2037

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

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	2.9683	7.8312	31.8673	0.1026	13.6269	0.0583	13.6852	3.6468	0.0546	3.7014	0.0000	10,401.44 52	10,401.44 52	0.3891	0.0000	10,411.17 38
Unmitigated	2.9683	7.8312	31.8673	0.1026	13.6269	0.0583	13.6852	3.6468	0.0546	3.7014	0.0000	10,401.44 52	10,401.44 52	0.3891	0.0000	10,411.17 38

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	11,439.99	3,941.51	3,941.51	36,754,876	36,754,876
Total	11,439.99	3,941.51	3,941.51	36,754,876	36,754,876

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	0.00	0.00	0.00	24.00	50.00	26.00	86	11	3
Apartments Mid Rise	0.00	0.00	0.00	24.00	50.00	26.00	86	11	3
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Research & Development	14.70	6.60	6.60	33.00	48.00	19.00	82	15	3
University/College (4Yr)	14.70	6.60	6.60	0.00	0.00	0.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Apartments Mid Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Apartments Mid Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
General Light Industry	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Health Club	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Parking Lot	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Research & Development	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
University/College (4Yr)	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1,139.2384	1,139.2384	0.0732	0.0146	1,145.4325
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	1,139.2384	1,139.2384	0.0732	0.0146	1,145.4325
NaturalGas Mitigated	0.4711	4.2477	3.3380	0.0257			0.3255	0.3255		0.3255	0.3255	4,662.7054	4,662.7054	0.0894	0.0855	4,690.4135
NaturalGas Unmitigated	0.4711	4.2477	3.3380	0.0257			0.3255	0.3255		0.3255	0.3255	4,662.7054	4,662.7054	0.0894	0.0855	4,690.4135

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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					
Apartments Low Rise	3.46349e+006	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	184.8248	184.8248	3.5400e-003	3.3900e-003	185.9232
Apartments Mid Rise	8.58203e+006	0.0463	0.3955	0.1683	2.5200e-003		0.0320	0.0320		0.0320	0.0320	0.0000	457.9698	457.9698	8.7800e-003	8.4000e-003	460.6913
General Light Industry	1.47016e+006	7.9300e-003	0.0721	0.0605	4.3000e-004		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	78.4532	78.4532	1.5000e-003	1.4400e-003	78.9194
Health Club	1.54399e+007	0.0833	0.7569	0.6358	4.5400e-003		0.0575	0.0575		0.0575	0.0575	0.0000	823.9326	823.9326	0.0158	0.0151	828.8288
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	2.8624e+007	0.1544	1.4031	1.1786	8.4200e-003		0.1066	0.1066		0.1066	0.1066	0.0000	1,527.4857	1,527.4857	0.0293	0.0280	1,536.5628
University/College (4Yr)	2.97962e+007	0.1607	1.4606	1.2269	8.7600e-003		0.1110	0.1110		0.1110	0.1110	0.0000	1,590.0394	1,590.0394	0.0305	0.0292	1,599.4882
Total		0.4712	4.2477	3.3380	0.0257		0.3255	0.3255		0.3255	0.3255	0.0000	4,662.7054	4,662.7054	0.0894	0.0855	4,690.4136

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5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	3.46349e+006	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	184.8248	184.8248	3.5400e-003	3.3900e-003	185.9232
Apartments Mid Rise	8.58203e+006	0.0463	0.3955	0.1683	2.5200e-003		0.0320	0.0320		0.0320	0.0320	0.0000	457.9698	457.9698	8.7800e-003	8.4000e-003	460.6913
General Light Industry	1.47016e+006	7.9300e-003	0.0721	0.0605	4.3000e-004		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	78.4532	78.4532	1.5000e-003	1.4400e-003	78.9194
Health Club	1.54399e+007	0.0833	0.7569	0.6358	4.5400e-003		0.0575	0.0575		0.0575	0.0575	0.0000	823.9326	823.9326	0.0158	0.0151	828.8288
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	2.8624e+007	0.1544	1.4031	1.1786	8.4200e-003		0.1066	0.1066		0.1066	0.1066	0.0000	1,527.4857	1,527.4857	0.0293	0.0280	1,536.5628
University/College (4Yr)	2.97962e+007	0.1607	1.4606	1.2269	8.7600e-003		0.1110	0.1110		0.1110	0.1110	0.0000	1,590.0394	1,590.0394	0.0305	0.0292	1,599.4882
Total		0.4712	4.2477	3.3380	0.0257		0.3255	0.3255		0.3255	0.3255	0.0000	4,662.7054	4,662.7054	0.0894	0.0855	4,690.4136

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.86031e+006	65.6494	4.2200e-003	8.4000e-004	66.0064
Apartments Mid Rise	5.05112e+006	178.2513	0.0115	2.2900e-003	179.2205
General Light Industry	474226	16.7352	1.0800e-003	2.2000e-004	16.8262
Health Club	4.98042e+006	175.7565	0.0113	2.2600e-003	176.7121
Parking Lot	656696	23.1745	1.4900e-003	3.0000e-004	23.3005
Research & Development	9.23318e+006	325.8344	0.0209	4.1900e-003	327.6059
University/College (4Yr)	1.00267e+007	353.8372	0.0227	4.5500e-003	355.7610
Total		1,139.2384	0.0732	0.0147	1,145.4325

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.86031e+006	65.6494	4.2200e-003	8.4000e-004	66.0064
Apartments Mid Rise	5.05112e+006	178.2513	0.0115	2.2900e-003	179.2205
General Light Industry	474226	16.7352	1.0800e-003	2.2000e-004	16.8262
Health Club	4.98042e+006	175.7565	0.0113	2.2600e-003	176.7121
Parking Lot	656696	23.1745	1.4900e-003	3.0000e-004	23.3005
Research & Development	9.23318e+006	325.8344	0.0209	4.1900e-003	327.6059
University/College (4Yr)	1.00267e+007	353.8372	0.0227	4.5500e-003	355.7610
Total		1,139.2384	0.0732	0.0147	1,145.4325

6.0 Area Detail

6.1 Mitigation Measures Area

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Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	20.8954	0.1607	13.3210	6.1000e-004		0.0726	0.0726		0.0726	0.0726	0.0000	20.1552	20.1552	0.0146	0.0000	20.5188
Unmitigated	26.4146	0.2024	17.5672	9.3000e-004		0.0976	0.0976		0.0976	0.0976	0.0000	28.8678	28.8678	0.0279	0.0000	29.5661

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Annual

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	3.7756					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	22.1047					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5343	0.2024	17.5672	9.3000e-004		0.0976	0.0976		0.0976	0.0976	0.0000	28.8678	28.8678	0.0279	0.0000	29.5661
Total	26.4146	0.2024	17.5672	9.3000e-004		0.0976	0.0976		0.0976	0.0976	0.0000	28.8678	28.8678	0.0279	0.0000	29.5661

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Annual

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	0.1524					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	20.4610					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2820	0.1607	13.3210	6.1000e-004		0.0726	0.0726		0.0726	0.0726	0.0000	20.1552	20.1552	0.0146	0.0000	20.5188
Total	20.8954	0.1607	13.3210	6.1000e-004		0.0726	0.0726		0.0726	0.0726	0.0000	20.1552	20.1552	0.0146	0.0000	20.5188

7.0 Water Detail

7.1 Mitigation Measures Water

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	285.3822	17.3857	0.4118	842.7497
Unmitigated	285.3822	17.3857	0.4118	842.7497

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Annual

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	28.6678 / 18.0732	16.8014	0.9346	0.0222	46.7698
Apartments Mid Rise	81.8986 / 51.6317	47.9985	2.6701	0.0633	133.6128
General Light Industry	8.92625 / 0	4.5364	0.2910	6.8900e-003	13.8638
Health Club	23.9772 / 14.6957	14.0005	0.7817	0.0185	39.0652
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	369.547 / 0	187.8059	12.0462	0.2852	573.9628
University/College (4Yr)	20.3019 / 31.7543	14.2396	0.6620	0.0157	35.4753
Total		285.3823	17.3857	0.4118	842.7497

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	28.6678 / 18.0732	16.8014	0.9346	0.0222	46.7698
Apartments Mid Rise	81.8986 / 51.6317	47.9985	2.6701	0.0633	133.6128
General Light Industry	8.92625 / 0	4.5364	0.2910	6.8900e-003	13.8638
Health Club	23.9772 / 14.6957	14.0005	0.7817	0.0185	39.0652
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	369.547 / 0	187.8059	12.0462	0.2852	573.9628
University/College (4Yr)	20.3019 / 31.7543	14.2396	0.6620	0.0157	35.4753
Total		285.3823	17.3857	0.4118	842.7497

8.0 Waste Detail

8.1 Mitigation Measures Waste

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,000.114 1	59.1051	0.0000	2,477.740 5
Unmitigated	1,000.114 1	59.1051	0.0000	2,477.740 5

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	202.4	41.0854	2.4281	0.0000	101.7873
Apartments Mid Rise	578.22	117.3734	6.9366	0.0000	290.7877
General Light Industry	47.86	9.7152	0.5742	0.0000	24.0689
Health Club	2310.84	469.0796	27.7218	0.0000	1,162.1250
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	57.11	11.5928	0.6851	0.0000	28.7207
University/College (4Yr)	1730.46	351.2677	20.7593	0.0000	870.2510
Total		1,000.1141	59.1051	0.0000	2,477.7405

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Annual

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	202.4	41.0854	2.4281	0.0000	101.7873
Apartments Mid Rise	578.22	117.3734	6.9366	0.0000	290.7877
General Light Industry	47.86	9.7152	0.5742	0.0000	24.0689
Health Club	2310.84	469.0796	27.7218	0.0000	1,162.1250
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	57.11	11.5928	0.6851	0.0000	28.7207
University/College (4Yr)	1730.46	351.2677	20.7593	0.0000	870.2510
Total		1,000.1141	59.1051	0.0000	2,477.7405

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-	0.0000	0.0000	-
	2,160.268			2,160.268
	0			0

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Pine	-3386	-	0.0000	0.0000	-
		2,160.268			2,160.268
		0			0
Total		-	0.0000	0.0000	-
		2,160.268			2,160.268
		0			0

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Santa Cruz County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	1,127.37	1000sqft	25.88	1,127,373.00	0
University/College (4Yr)	9,482.00	Student	40.01	1,290,438.00	0
General Light Industry	57.90	1000sqft	1.33	57,903.00	0
Parking Lot	43.07	Acre	43.07	1,876,275.00	0
Health Club	608.11	1000sqft	13.96	608,110.00	0
Apartments Low Rise	440.00	Dwelling Unit	27.50	660,000.00	550
Apartments Mid Rise	1,257.00	Dwelling Unit	33.08	1,885,000.00	8500

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	4			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	77.8	CH4 Intensity (lb/MWhr)	0.005	N2O Intensity (lb/MWhr)	0.001

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - UCSC Electricity Emission Factors for 2040 reflect State averages.

Land Use - Values specified in Project Description

Construction Phase - This file is for operational emissions, so construction phases are removed.

Off-road Equipment -

Off-road Equipment - This file is for operational emissions, so construction phases are removed.

Off-road Equipment -

Trips and VMT -

On-road Fugitive Dust -

Demolition -

Architectural Coating -

Vehicle Trips - Adjusted trip rates so that avg annual VMT matches Traffic Study.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Woodstoves -

Consumer Products -

Area Coating -

Energy Use - Energy intensity rates adjusted 2019 Title 24 standards.

Water And Wastewater -

Solid Waste -

Sequestration - Using Pine as substitute for redwood trees. 22 trees/acre.

Construction Off-road Equipment Mitigation -

Area Mitigation - Zero-VOC paints and coatings (5 g/L), low-VOC cleaning supplies. 100% electric lawn and garden equipment.

Energy Mitigation -

Fleet Mix -

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Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1,541,912.00	1,027,942.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	4,625,736.00	3,083,825.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,717,875.00	1,145,475.00
tblArchitecturalCoating	ConstArea_Residential_Interior	5,153,625.00	3,436,425.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	5
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	5
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	150	5
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	5
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	5
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	3,100.00	1.00
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblEnergyUse	T24E	365.68	244.86
tblEnergyUse	T24E	332.81	222.85
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	2.73	2.59
tblEnergyUse	T24NG	7,043.85	4,716.56

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tblEnergyUse	T24NG	5,484.45	3,672.39
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	20.83	19.79
tblGrading	AcresOfGrading	0.00	775.00
tblLandUse	LandUseSquareFeet	1,127,370.00	1,127,373.00
tblLandUse	LandUseSquareFeet	1,742,767.59	1,290,438.00
tblLandUse	LandUseSquareFeet	57,900.00	57,903.00
tblLandUse	LandUseSquareFeet	1,876,129.20	1,876,275.00
tblLandUse	LandUseSquareFeet	440,000.00	660,000.00
tblLandUse	LandUseSquareFeet	1,257,000.00	1,885,000.00
tblLandUse	Population	1,258.00	550.00
tblLandUse	Population	3,595.00	8,500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.005
tblProjectCharacteristics	CO2IntensityFactor	641.35	77.8
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.001
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSequestration	NumberOfNewTrees	0.00	-3,386.00
tblSolidWaste	SolidWasteGenerationRate	71.80	47.86
tblSolidWaste	SolidWasteGenerationRate	3,466.23	2,310.84
tblSolidWaste	SolidWasteGenerationRate	85.67	57.11

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tblTripsAndVMT	VendorTripNumber	994.00	826.00
tblTripsAndVMT	WorkerTripNumber	3,192.00	2,798.00
tblTripsAndVMT	WorkerTripNumber	638.00	560.00
tblVehicleEF	HHD	0.24	0.19
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.31	54.39
tblVehicleEF	HHD	1.00	0.41
tblVehicleEF	HHD	3.88	7.9690e-003
tblVehicleEF	HHD	3,651.43	7,280.05
tblVehicleEF	HHD	1,576.81	1,181.05
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.60	45.97
tblVehicleEF	HHD	1.50	2.41
tblVehicleEF	HHD	19.34	3.06
tblVehicleEF	HHD	3.4070e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.2590e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	8.2000e-005	2.7000e-005
tblVehicleEF	HHD	4.5610e-003	7.4000e-005

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tblVehicleEF	HHD	0.34	3.69
tblVehicleEF	HHD	5.4000e-005	1.8000e-005
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	5.9400e-004	3.7800e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7400e-004	1.0000e-006
tblVehicleEF	HHD	8.2000e-005	2.7000e-005
tblVehicleEF	HHD	4.5610e-003	7.4000e-005
tblVehicleEF	HHD	0.39	4.21
tblVehicleEF	HHD	5.4000e-005	1.8000e-005
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	5.9400e-004	3.7800e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.23	0.20
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	0.95	53.65
tblVehicleEF	HHD	1.02	0.42
tblVehicleEF	HHD	3.53	7.2410e-003
tblVehicleEF	HHD	3,868.33	7,196.62
tblVehicleEF	HHD	1,576.81	1,181.06
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.98	43.90
tblVehicleEF	HHD	1.44	2.33
tblVehicleEF	HHD	19.32	3.06

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tblVehicleEF	HHD	2.8760e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	2.7520e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	5.3000e-005
tblVehicleEF	HHD	4.6920e-003	7.6000e-005
tblVehicleEF	HHD	0.32	3.90
tblVehicleEF	HHD	1.0600e-004	3.5000e-005
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	5.5500e-004	3.5300e-004
tblVehicleEF	HHD	0.06	2.0000e-006
tblVehicleEF	HHD	0.04	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.6800e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	5.3000e-005
tblVehicleEF	HHD	4.6920e-003	7.6000e-005
tblVehicleEF	HHD	0.37	4.46
tblVehicleEF	HHD	1.0600e-004	3.5000e-005
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	5.5500e-004	3.5300e-004
tblVehicleEF	HHD	0.07	2.0000e-006

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tblVehicleEF	HHD	0.26	0.17
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.80	55.42
tblVehicleEF	HHD	0.99	0.41
tblVehicleEF	HHD	4.21	8.6450e-003
tblVehicleEF	HHD	3,351.89	7,395.27
tblVehicleEF	HHD	1,576.81	1,181.05
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.09	48.82
tblVehicleEF	HHD	1.52	2.44
tblVehicleEF	HHD	19.36	3.06
tblVehicleEF	HHD	4.1390e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.9600e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	4.1000e-005	1.4000e-005
tblVehicleEF	HHD	4.6400e-003	7.5000e-005
tblVehicleEF	HHD	0.37	3.39
tblVehicleEF	HHD	2.1000e-005	7.0000e-006
tblVehicleEF	HHD	0.08	0.02

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tblVehicleEF	HHD	6.7000e-004	4.2700e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7900e-004	1.0000e-006
tblVehicleEF	HHD	4.1000e-005	1.4000e-005
tblVehicleEF	HHD	4.6400e-003	7.5000e-005
tblVehicleEF	HHD	0.42	3.87
tblVehicleEF	HHD	2.1000e-005	7.0000e-006
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	6.7000e-004	4.2700e-004
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	LDA	1.6390e-003	7.5900e-004
tblVehicleEF	LDA	9.0100e-004	0.02
tblVehicleEF	LDA	0.29	0.39
tblVehicleEF	LDA	0.44	1.56
tblVehicleEF	LDA	168.86	206.82
tblVehicleEF	LDA	36.04	41.63
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.12
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	8.1950e-003	0.06
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	7.7480e-003	0.06

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tblVehicleEF	LDA	4.1300e-003	2.3880e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.01	0.08
tblVehicleEF	LDA	1.6890e-003	1.8340e-003
tblVehicleEF	LDA	3.6700e-004	3.6900e-004
tblVehicleEF	LDA	8.1950e-003	0.06
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	7.7480e-003	0.06
tblVehicleEF	LDA	6.0000e-003	3.4550e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDA	1.7670e-003	8.3200e-004
tblVehicleEF	LDA	7.5200e-004	0.02
tblVehicleEF	LDA	0.32	0.44
tblVehicleEF	LDA	0.34	1.23
tblVehicleEF	LDA	177.42	217.05
tblVehicleEF	LDA	36.04	41.01
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	4.4460e-003	2.5670e-003

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tblVehicleEF	LDA	0.03	0.14
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.7750e-003	1.9240e-003
tblVehicleEF	LDA	3.6500e-004	3.6300e-004
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	6.4610e-003	3.7160e-003
tblVehicleEF	LDA	0.03	0.14
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.6100e-003	7.3600e-004
tblVehicleEF	LDA	1.0270e-003	0.02
tblVehicleEF	LDA	0.29	0.40
tblVehicleEF	LDA	0.51	1.82
tblVehicleEF	LDA	168.71	206.65
tblVehicleEF	LDA	36.04	42.12
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	3.5800e-003	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	2.4830e-003	0.02
tblVehicleEF	LDA	4.0590e-003	2.3470e-003
tblVehicleEF	LDA	0.03	0.20

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tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDA	1.6880e-003	1.8320e-003
tblVehicleEF	LDA	3.6800e-004	3.7300e-004
tblVehicleEF	LDA	3.5800e-003	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	2.4830e-003	0.02
tblVehicleEF	LDA	5.8960e-003	3.3960e-003
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.02	0.10
tblVehicleEF	LDT1	1.9070e-003	9.4600e-004
tblVehicleEF	LDT1	1.2100e-003	0.03
tblVehicleEF	LDT1	0.32	0.43
tblVehicleEF	LDT1	0.51	1.75
tblVehicleEF	LDT1	209.63	252.15
tblVehicleEF	LDT1	45.37	51.97
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.02	0.15
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	4.7310e-003	3.0380e-003
tblVehicleEF	LDT1	0.03	0.28
tblVehicleEF	LDT1	0.02	0.10

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tblVehicleEF	LDT1	2.0980e-003	2.2340e-003
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	6.8990e-003	4.4320e-003
tblVehicleEF	LDT1	0.03	0.28
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT1	2.0550e-003	1.0350e-003
tblVehicleEF	LDT1	1.0090e-003	0.02
tblVehicleEF	LDT1	0.35	0.47
tblVehicleEF	LDT1	0.40	1.37
tblVehicleEF	LDT1	220.22	262.77
tblVehicleEF	LDT1	45.37	51.26
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	0.02	0.24
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.02	0.23
tblVehicleEF	LDT1	5.0950e-003	3.2690e-003
tblVehicleEF	LDT1	0.03	0.25
tblVehicleEF	LDT1	0.01	0.08
tblVehicleEF	LDT1	2.2040e-003	2.3280e-003
tblVehicleEF	LDT1	4.6000e-004	4.5400e-004

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tblVehicleEF	LDT1	0.02	0.24
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.02	0.23
tblVehicleEF	LDT1	7.4310e-003	4.7690e-003
tblVehicleEF	LDT1	0.03	0.25
tblVehicleEF	LDT1	0.01	0.09
tblVehicleEF	LDT1	1.8740e-003	9.1700e-004
tblVehicleEF	LDT1	1.3790e-003	0.03
tblVehicleEF	LDT1	0.32	0.43
tblVehicleEF	LDT1	0.60	2.04
tblVehicleEF	LDT1	209.45	251.97
tblVehicleEF	LDT1	45.37	52.53
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.16
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	5.0240e-003	0.06
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	3.4640e-003	0.04
tblVehicleEF	LDT1	4.6480e-003	2.9850e-003
tblVehicleEF	LDT1	0.04	0.33
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT1	2.0960e-003	2.2330e-003
tblVehicleEF	LDT1	4.6300e-004	4.6500e-004
tblVehicleEF	LDT1	5.0240e-003	0.06

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tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	3.4640e-003	0.04
tblVehicleEF	LDT1	6.7780e-003	4.3540e-003
tblVehicleEF	LDT1	0.04	0.33
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT2	2.8190e-003	1.2600e-003
tblVehicleEF	LDT2	2.3310e-003	0.03
tblVehicleEF	LDT2	0.47	0.50
tblVehicleEF	LDT2	0.79	2.20
tblVehicleEF	LDT2	252.42	252.46
tblVehicleEF	LDT2	55.17	53.02
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.15
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.02	0.15
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.02	0.16
tblVehicleEF	LDT2	7.0170e-003	4.4720e-003
tblVehicleEF	LDT2	0.05	0.28
tblVehicleEF	LDT2	0.03	0.13
tblVehicleEF	LDT2	2.5270e-003	2.2380e-003
tblVehicleEF	LDT2	5.6400e-004	4.7000e-004
tblVehicleEF	LDT2	0.02	0.15
tblVehicleEF	LDT2	0.07	0.07

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tblVehicleEF	LDT2	0.02	0.16
tblVehicleEF	LDT2	0.01	6.4570e-003
tblVehicleEF	LDT2	0.05	0.28
tblVehicleEF	LDT2	0.03	0.15
tblVehicleEF	LDT2	3.0340e-003	1.3780e-003
tblVehicleEF	LDT2	1.9960e-003	0.03
tblVehicleEF	LDT2	0.52	0.55
tblVehicleEF	LDT2	0.66	1.72
tblVehicleEF	LDT2	264.93	262.08
tblVehicleEF	LDT2	55.17	52.11
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.04	0.13
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.05	0.32
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.04	0.29
tblVehicleEF	LDT2	7.5500e-003	4.7960e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.03	0.11
tblVehicleEF	LDT2	2.6530e-003	2.3240e-003
tblVehicleEF	LDT2	5.6200e-004	4.6200e-004
tblVehicleEF	LDT2	0.05	0.32
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.04	0.29

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tblVehicleEF	LDT2	0.01	6.9310e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	2.7690e-003	1.2220e-003
tblVehicleEF	LDT2	2.6130e-003	0.04
tblVehicleEF	LDT2	0.48	0.51
tblVehicleEF	LDT2	0.90	2.58
tblVehicleEF	LDT2	252.21	252.31
tblVehicleEF	LDT2	55.17	53.73
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.16
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.01	0.07
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	7.6010e-003	0.05
tblVehicleEF	LDT2	6.8940e-003	4.3970e-003
tblVehicleEF	LDT2	0.07	0.34
tblVehicleEF	LDT2	0.04	0.15
tblVehicleEF	LDT2	2.5250e-003	2.2370e-003
tblVehicleEF	LDT2	5.6600e-004	4.7600e-004
tblVehicleEF	LDT2	0.01	0.07
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	7.6010e-003	0.05
tblVehicleEF	LDT2	0.01	6.3480e-003

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tblVehicleEF	LDT2	0.07	0.34
tblVehicleEF	LDT2	0.04	0.17
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.3310e-003	3.9600e-003
tblVehicleEF	LHD1	8.2940e-003	7.2240e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.47	0.37
tblVehicleEF	LHD1	1.29	0.76
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.76
tblVehicleEF	LHD1	27.02	8.68
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.42	0.20
tblVehicleEF	LHD1	0.57	0.19
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003
tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	1.2360e-003	0.01
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	8.0900e-004	9.2900e-003
tblVehicleEF	LHD1	0.09	0.06

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tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9400e-004	8.6000e-005
tblVehicleEF	LHD1	1.2360e-003	0.01
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	8.0900e-004	9.2900e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.3890e-003	4.0070e-003
tblVehicleEF	LHD1	7.7400e-003	6.7790e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.47	0.38
tblVehicleEF	LHD1	1.18	0.70
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.76
tblVehicleEF	LHD1	27.02	8.57
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.41	0.19
tblVehicleEF	LHD1	0.53	0.17
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003

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tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	2.3600e-003	0.03
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	1.5530e-003	0.02
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.14	0.22
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9200e-004	8.5000e-005
tblVehicleEF	LHD1	2.3600e-003	0.03
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	1.5530e-003	0.02
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.14	0.22
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.2920e-003	3.9290e-003
tblVehicleEF	LHD1	8.7320e-003	7.5750e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.46	0.37

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tblVehicleEF	LHD1	1.39	0.82
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.75
tblVehicleEF	LHD1	27.02	8.78
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.43	0.20
tblVehicleEF	LHD1	0.61	0.20
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003
tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	6.2900e-004	7.2020e-003
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	3.1500e-004	3.5920e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9500e-004	8.7000e-005
tblVehicleEF	LHD1	6.2900e-004	7.2020e-003
tblVehicleEF	LHD1	0.07	0.05

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tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	3.1500e-004	3.5920e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	0.13	0.04
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7450e-003	5.0520e-003
tblVehicleEF	LHD2	2.1760e-003	3.0390e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.84	0.38
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.02
tblVehicleEF	LHD2	21.05	4.98
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.33
tblVehicleEF	LHD2	0.20	0.09
tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	3.7200e-004	5.8640e-003
tblVehicleEF	LHD2	0.01	0.02

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tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	2.4200e-004	3.8700e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003
tblVehicleEF	LHD2	2.2400e-004	4.9000e-005
tblVehicleEF	LHD2	3.7200e-004	5.8640e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	2.4200e-004	3.8700e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7720e-003	5.0740e-003
tblVehicleEF	LHD2	2.1430e-003	2.8520e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.77	0.35
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.02
tblVehicleEF	LHD2	21.05	4.93
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.32
tblVehicleEF	LHD2	0.19	0.08

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tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	7.3200e-004	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	4.7800e-004	7.5310e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003
tblVehicleEF	LHD2	2.2300e-004	4.9000e-005
tblVehicleEF	LHD2	7.3200e-004	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	4.7800e-004	7.5310e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7280e-003	5.0370e-003

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tblVehicleEF	LHD2	2.2020e-003	3.1870e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.90	0.41
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.01
tblVehicleEF	LHD2	21.05	5.03
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.34
tblVehicleEF	LHD2	0.20	0.09
tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	1.8500e-004	2.9740e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	9.3000e-005	1.4940e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003

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tblVehicleEF	LHD2	2.2500e-004	5.0000e-005
tblVehicleEF	LHD2	1.8500e-004	2.9740e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	9.3000e-005	1.4940e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	MCY	0.53	0.36
tblVehicleEF	MCY	0.17	0.26
tblVehicleEF	MCY	18.33	18.38
tblVehicleEF	MCY	10.94	9.75
tblVehicleEF	MCY	182.27	219.06
tblVehicleEF	MCY	43.71	61.12
tblVehicleEF	MCY	1.18	1.19
tblVehicleEF	MCY	0.32	0.28
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	0.75	1.56
tblVehicleEF	MCY	0.74	0.77
tblVehicleEF	MCY	0.37	0.77
tblVehicleEF	MCY	2.48	2.49
tblVehicleEF	MCY	0.47	1.31
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MCY	2.1980e-003	2.1680e-003

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tblVehicleEF	MCY	6.8200e-004	6.0500e-004
tblVehicleEF	MCY	0.75	1.56
tblVehicleEF	MCY	0.74	0.77
tblVehicleEF	MCY	0.37	0.77
tblVehicleEF	MCY	3.10	3.11
tblVehicleEF	MCY	0.47	1.31
tblVehicleEF	MCY	2.46	2.19
tblVehicleEF	MCY	0.51	0.35
tblVehicleEF	MCY	0.14	0.21
tblVehicleEF	MCY	16.96	17.00
tblVehicleEF	MCY	9.17	8.10
tblVehicleEF	MCY	182.27	216.52
tblVehicleEF	MCY	43.71	57.27
tblVehicleEF	MCY	1.05	1.05
tblVehicleEF	MCY	0.30	0.25
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	1.84	3.79
tblVehicleEF	MCY	0.88	0.92
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	2.39	2.39
tblVehicleEF	MCY	0.41	1.15
tblVehicleEF	MCY	1.86	1.64
tblVehicleEF	MCY	2.1730e-003	2.1430e-003
tblVehicleEF	MCY	6.4100e-004	5.6700e-004

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tblVehicleEF	MCY	1.84	3.79
tblVehicleEF	MCY	0.88	0.92
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	2.98	2.99
tblVehicleEF	MCY	0.41	1.15
tblVehicleEF	MCY	2.02	1.78
tblVehicleEF	MCY	0.54	0.37
tblVehicleEF	MCY	0.19	0.30
tblVehicleEF	MCY	19.75	19.80
tblVehicleEF	MCY	12.83	11.48
tblVehicleEF	MCY	182.27	221.65
tblVehicleEF	MCY	43.71	65.04
tblVehicleEF	MCY	1.26	1.26
tblVehicleEF	MCY	0.35	0.30
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	0.22	0.45
tblVehicleEF	MCY	0.83	0.87
tblVehicleEF	MCY	0.11	0.22
tblVehicleEF	MCY	2.57	2.58
tblVehicleEF	MCY	0.58	1.61
tblVehicleEF	MCY	2.65	2.36
tblVehicleEF	MCY	2.2240e-003	2.1930e-003
tblVehicleEF	MCY	7.2500e-004	6.4400e-004
tblVehicleEF	MCY	0.22	0.45

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tblVehicleEF	MCY	0.83	0.87
tblVehicleEF	MCY	0.11	0.22
tblVehicleEF	MCY	3.21	3.22
tblVehicleEF	MCY	0.58	1.61
tblVehicleEF	MCY	2.88	2.57
tblVehicleEF	MDV	4.6980e-003	1.3630e-003
tblVehicleEF	MDV	6.0110e-003	0.03
tblVehicleEF	MDV	0.64	0.51
tblVehicleEF	MDV	1.36	2.26
tblVehicleEF	MDV	339.26	305.96
tblVehicleEF	MDV	73.02	62.75
tblVehicleEF	MDV	0.07	0.03
tblVehicleEF	MDV	0.12	0.17
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.01	4.9950e-003
tblVehicleEF	MDV	0.08	0.29
tblVehicleEF	MDV	0.08	0.15
tblVehicleEF	MDV	3.3930e-003	2.7170e-003
tblVehicleEF	MDV	7.5300e-004	5.5600e-004
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.13	0.09

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tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.02	7.1990e-003
tblVehicleEF	MDV	0.08	0.29
tblVehicleEF	MDV	0.09	0.16
tblVehicleEF	MDV	5.0540e-003	1.4900e-003
tblVehicleEF	MDV	5.0610e-003	0.03
tblVehicleEF	MDV	0.70	0.56
tblVehicleEF	MDV	1.10	1.76
tblVehicleEF	MDV	355.62	315.48
tblVehicleEF	MDV	73.02	61.81
tblVehicleEF	MDV	0.06	0.03
tblVehicleEF	MDV	0.11	0.15
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.09	0.39
tblVehicleEF	MDV	0.01	5.3540e-003
tblVehicleEF	MDV	0.07	0.26
tblVehicleEF	MDV	0.07	0.12
tblVehicleEF	MDV	3.5580e-003	2.8010e-003
tblVehicleEF	MDV	7.4800e-004	5.4800e-004
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.09	0.39

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tblVehicleEF	MDV	0.02	7.7230e-003
tblVehicleEF	MDV	0.07	0.26
tblVehicleEF	MDV	0.07	0.13
tblVehicleEF	MDV	4.6150e-003	1.3220e-003
tblVehicleEF	MDV	6.8120e-003	0.04
tblVehicleEF	MDV	0.64	0.51
tblVehicleEF	MDV	1.56	2.64
tblVehicleEF	MDV	338.97	305.81
tblVehicleEF	MDV	73.02	63.49
tblVehicleEF	MDV	0.07	0.03
tblVehicleEF	MDV	0.13	0.18
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	0.01	4.9120e-003
tblVehicleEF	MDV	0.10	0.35
tblVehicleEF	MDV	0.09	0.17
tblVehicleEF	MDV	3.3900e-003	2.7150e-003
tblVehicleEF	MDV	7.5700e-004	5.6300e-004
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	0.02	7.0780e-003

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tblVehicleEF	MDV	0.10	0.35
tblVehicleEF	MDV	0.10	0.18
tblVehicleEF	MH	5.4220e-003	4.1740e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.26	0.23
tblVehicleEF	MH	3.31	1.50
tblVehicleEF	MH	1,176.44	1,266.18
tblVehicleEF	MH	55.59	14.09
tblVehicleEF	MH	0.77	1.12
tblVehicleEF	MH	0.58	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.14	0.01
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	3.9420e-003	0.24
tblVehicleEF	MH	0.20	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1400e-004	1.3900e-004
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.14	0.01

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tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	3.9420e-003	0.24
tblVehicleEF	MH	0.22	0.08
tblVehicleEF	MH	5.6040e-003	4.2710e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.27	0.23
tblVehicleEF	MH	3.00	1.37
tblVehicleEF	MH	1,176.44	1,266.19
tblVehicleEF	MH	55.59	13.86
tblVehicleEF	MH	0.73	1.08
tblVehicleEF	MH	0.53	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.54	0.04
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	3.7600e-003	0.23
tblVehicleEF	MH	0.19	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.0800e-004	1.3700e-004
tblVehicleEF	MH	0.54	0.04
tblVehicleEF	MH	0.03	0.02

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tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	3.7600e-003	0.23
tblVehicleEF	MH	0.21	0.07
tblVehicleEF	MH	5.3060e-003	4.1110e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.26	0.22
tblVehicleEF	MH	3.62	1.65
tblVehicleEF	MH	1,176.44	1,266.18
tblVehicleEF	MH	55.59	14.33
tblVehicleEF	MH	0.78	1.14
tblVehicleEF	MH	0.62	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.15	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.06	4.9680e-003
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	4.3120e-003	0.26
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1900e-004	1.4200e-004
tblVehicleEF	MH	0.15	0.01

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tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.06	4.9680e-003
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	4.3120e-003	0.26
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2480e-003	7.7200e-004
tblVehicleEF	MHD	0.03	3.1220e-003
tblVehicleEF	MHD	0.26	3.73
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	1.99	0.30
tblVehicleEF	MHD	178.42	592.23
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.93
tblVehicleEF	MHD	0.49	3.22
tblVehicleEF	MHD	1.08	1.49
tblVehicleEF	MHD	14.07	1.96
tblVehicleEF	MHD	5.8000e-005	9.6200e-004
tblVehicleEF	MHD	3.0680e-003	7.5170e-003
tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	5.6000e-005	9.2100e-004
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	3.1900e-004	1.7150e-003
tblVehicleEF	MHD	0.02	5.0230e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	2.1000e-004	1.1250e-003

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tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	7.1260e-003	0.03
tblVehicleEF	MHD	0.13	0.02
tblVehicleEF	MHD	1.7100e-003	5.6140e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	4.0000e-004	2.9000e-005
tblVehicleEF	MHD	3.1900e-004	1.7150e-003
tblVehicleEF	MHD	0.02	5.0230e-003
tblVehicleEF	MHD	0.03	0.21
tblVehicleEF	MHD	2.1000e-004	1.1250e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	7.1260e-003	0.03
tblVehicleEF	MHD	0.14	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2610e-003	7.8700e-004
tblVehicleEF	MHD	0.03	2.9270e-003
tblVehicleEF	MHD	0.17	3.16
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	1.81	0.27
tblVehicleEF	MHD	189.21	587.50
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.89
tblVehicleEF	MHD	0.50	3.07
tblVehicleEF	MHD	1.05	1.44
tblVehicleEF	MHD	14.05	1.96
tblVehicleEF	MHD	4.9000e-005	8.4500e-004
tblVehicleEF	MHD	3.0680e-003	7.5170e-003

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tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	4.7000e-005	8.0900e-004
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	6.2200e-004	3.3590e-003
tblVehicleEF	MHD	0.02	5.1730e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	4.1100e-004	2.2120e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	6.6650e-003	0.02
tblVehicleEF	MHD	0.12	0.01
tblVehicleEF	MHD	1.8120e-003	5.5700e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	3.9700e-004	2.9000e-005
tblVehicleEF	MHD	6.2200e-004	3.3590e-003
tblVehicleEF	MHD	0.02	5.1730e-003
tblVehicleEF	MHD	0.02	0.20
tblVehicleEF	MHD	4.1100e-004	2.2120e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	6.6650e-003	0.02
tblVehicleEF	MHD	0.13	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2400e-003	7.6200e-004
tblVehicleEF	MHD	0.03	3.2720e-003
tblVehicleEF	MHD	0.33	4.16
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	2.16	0.32

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tblVehicleEF	MHD	163.98	600.32
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.98
tblVehicleEF	MHD	0.47	3.41
tblVehicleEF	MHD	1.10	1.51
tblVehicleEF	MHD	14.09	1.96
tblVehicleEF	MHD	7.1000e-005	1.1240e-003
tblVehicleEF	MHD	3.0680e-003	7.5170e-003
tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	6.8000e-005	1.0750e-003
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	1.6100e-004	8.6100e-004
tblVehicleEF	MHD	0.02	5.1140e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	8.1000e-005	4.3200e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	8.0270e-003	0.03
tblVehicleEF	MHD	0.14	0.02
tblVehicleEF	MHD	1.5730e-003	5.6900e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	4.0300e-004	2.9000e-005
tblVehicleEF	MHD	1.6100e-004	8.6100e-004
tblVehicleEF	MHD	0.02	5.1140e-003
tblVehicleEF	MHD	0.03	0.21
tblVehicleEF	MHD	8.1000e-005	4.3200e-004
tblVehicleEF	MHD	0.05	0.01

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tblVehicleEF	MHD	8.0270e-003	0.03
tblVehicleEF	MHD	0.15	0.02
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.4180e-003	3.2250e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	9.37
tblVehicleEF	OBUS	0.29	0.33
tblVehicleEF	OBUS	4.36	1.53
tblVehicleEF	OBUS	87.86	1,204.87
tblVehicleEF	OBUS	1,290.02	1,289.82
tblVehicleEF	OBUS	67.94	12.35
tblVehicleEF	OBUS	0.19	5.49
tblVehicleEF	OBUS	0.65	1.10
tblVehicleEF	OBUS	1.75	1.20
tblVehicleEF	OBUS	1.7000e-005	1.8470e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	1.7000e-005	1.7670e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003
tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	1.1160e-003	0.02
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.79
tblVehicleEF	OBUS	5.5400e-004	0.01
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.24
tblVehicleEF	OBUS	0.28	0.08

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tblVehicleEF	OBUS	8.5000e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.5600e-004	1.2200e-004
tblVehicleEF	OBUS	1.1160e-003	0.02
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	1.03
tblVehicleEF	OBUS	5.5400e-004	0.01
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.05	0.24
tblVehicleEF	OBUS	0.31	0.08
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.5470e-003	3.3510e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	9.29
tblVehicleEF	OBUS	0.30	0.34
tblVehicleEF	OBUS	3.96	1.39
tblVehicleEF	OBUS	92.09	1,190.97
tblVehicleEF	OBUS	1,290.02	1,289.84
tblVehicleEF	OBUS	67.94	12.11
tblVehicleEF	OBUS	0.19	5.22
tblVehicleEF	OBUS	0.62	1.06
tblVehicleEF	OBUS	1.69	1.18
tblVehicleEF	OBUS	1.5000e-005	1.6410e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	1.4000e-005	1.5700e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003

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tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	2.1480e-003	0.04
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.81
tblVehicleEF	OBUS	1.1070e-003	0.02
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.23
tblVehicleEF	OBUS	0.26	0.07
tblVehicleEF	OBUS	8.9100e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.4900e-004	1.2000e-004
tblVehicleEF	OBUS	2.1480e-003	0.04
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	1.06
tblVehicleEF	OBUS	1.1070e-003	0.02
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.05	0.23
tblVehicleEF	OBUS	0.29	0.08
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.3350e-003	3.1420e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.26	9.48
tblVehicleEF	OBUS	0.29	0.32
tblVehicleEF	OBUS	4.78	1.68
tblVehicleEF	OBUS	82.02	1,224.08
tblVehicleEF	OBUS	1,290.02	1,289.81
tblVehicleEF	OBUS	67.94	12.60

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tblVehicleEF	OBUS	0.18	5.87
tblVehicleEF	OBUS	0.66	1.12
tblVehicleEF	OBUS	1.79	1.21
tblVehicleEF	OBUS	2.1000e-005	2.1310e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	2.0000e-005	2.0390e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003
tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	5.9200e-004	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.76
tblVehicleEF	OBUS	2.4400e-004	4.9660e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.06	0.26
tblVehicleEF	OBUS	0.30	0.08
tblVehicleEF	OBUS	7.9500e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6300e-004	1.2500e-004
tblVehicleEF	OBUS	5.9200e-004	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.99
tblVehicleEF	OBUS	2.4400e-004	4.9660e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.06	0.26
tblVehicleEF	OBUS	0.33	0.09
tblVehicleEF	SBUS	0.84	0.59

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tblVehicleEF	SBUS	3.2920e-003	1.4860e-003
tblVehicleEF	SBUS	0.06	0.01
tblVehicleEF	SBUS	5.90	27.54
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	4.75	1.82
tblVehicleEF	SBUS	1,123.21	2,870.44
tblVehicleEF	SBUS	1,068.95	883.72
tblVehicleEF	SBUS	40.19	9.64
tblVehicleEF	SBUS	2.65	12.99
tblVehicleEF	SBUS	1.03	1.50
tblVehicleEF	SBUS	14.15	1.63
tblVehicleEF	SBUS	2.0500e-004	3.2780e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	1.9700e-004	3.1360e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003
tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	2.3390e-003	5.5350e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.72	2.70
tblVehicleEF	SBUS	1.1850e-003	2.7720e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.11
tblVehicleEF	SBUS	0.25	0.07
tblVehicleEF	SBUS	0.01	0.03

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tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	4.8400e-004	9.5000e-005
tblVehicleEF	SBUS	2.3390e-003	5.5350e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.04	3.88
tblVehicleEF	SBUS	1.1850e-003	2.7720e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.11
tblVehicleEF	SBUS	0.28	0.08
tblVehicleEF	SBUS	0.84	0.59
tblVehicleEF	SBUS	3.3440e-003	1.5120e-003
tblVehicleEF	SBUS	0.05	0.01
tblVehicleEF	SBUS	5.85	27.39
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	3.52	1.35
tblVehicleEF	SBUS	1,178.17	2,850.52
tblVehicleEF	SBUS	1,068.95	883.73
tblVehicleEF	SBUS	40.19	8.86
tblVehicleEF	SBUS	2.73	12.48
tblVehicleEF	SBUS	0.99	1.44
tblVehicleEF	SBUS	14.12	1.62
tblVehicleEF	SBUS	1.7300e-004	2.8970e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	1.6600e-004	2.7720e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003

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tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	4.4490e-003	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.72	2.72
tblVehicleEF	SBUS	2.3340e-003	5.5170e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	0.21	0.06
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	4.6400e-004	8.8000e-005
tblVehicleEF	SBUS	4.4490e-003	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	1.04	3.89
tblVehicleEF	SBUS	2.3340e-003	5.5170e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	0.23	0.07
tblVehicleEF	SBUS	0.84	0.59
tblVehicleEF	SBUS	3.2550e-003	1.4670e-003
tblVehicleEF	SBUS	0.06	0.02
tblVehicleEF	SBUS	5.97	27.75
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	6.14	2.35
tblVehicleEF	SBUS	1,047.32	2,897.95
tblVehicleEF	SBUS	1,068.95	883.72

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tblVehicleEF	SBUS	40.19	10.52
tblVehicleEF	SBUS	2.53	13.69
tblVehicleEF	SBUS	1.04	1.51
tblVehicleEF	SBUS	14.17	1.64
tblVehicleEF	SBUS	2.5000e-004	3.8030e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	2.3900e-004	3.6390e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003
tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	1.2710e-003	2.9600e-003
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.72	2.69
tblVehicleEF	SBUS	5.2800e-004	1.2260e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.02	0.13
tblVehicleEF	SBUS	0.29	0.08
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	5.0700e-004	1.0400e-004
tblVehicleEF	SBUS	1.2710e-003	2.9600e-003
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	1.04	3.86
tblVehicleEF	SBUS	5.2800e-004	1.2260e-003
tblVehicleEF	SBUS	0.05	0.02

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tblVehicleEF	SBUS	0.02	0.13
tblVehicleEF	SBUS	0.32	0.09
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.07	1.6310e-003
tblVehicleEF	UBUS	3.30	27.63
tblVehicleEF	UBUS	8.69	0.15
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.26
tblVehicleEF	UBUS	2.76	0.55
tblVehicleEF	UBUS	12.33	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	3.2160e-003	9.2000e-005
tblVehicleEF	UBUS	0.06	3.2100e-004
tblVehicleEF	UBUS	2.1090e-003	5.1000e-005
tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.02	1.9470e-003
tblVehicleEF	UBUS	0.90	7.5660e-003
tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.5900e-003	1.2000e-005
tblVehicleEF	UBUS	3.2160e-003	9.2000e-005

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tblVehicleEF	UBUS	0.06	3.2100e-004
tblVehicleEF	UBUS	2.1090e-003	5.1000e-005
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.02	1.9470e-003
tblVehicleEF	UBUS	0.99	8.2830e-003
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.06	1.4450e-003
tblVehicleEF	UBUS	3.31	27.63
tblVehicleEF	UBUS	6.96	0.12
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.21
tblVehicleEF	UBUS	2.65	0.55
tblVehicleEF	UBUS	12.22	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	5.9070e-003	1.9800e-004
tblVehicleEF	UBUS	0.07	3.5800e-004
tblVehicleEF	UBUS	4.1490e-003	1.2400e-004
tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.02	1.6760e-003
tblVehicleEF	UBUS	0.79	6.6320e-003

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tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.5600e-003	1.2000e-005
tblVehicleEF	UBUS	5.9070e-003	1.9800e-004
tblVehicleEF	UBUS	0.07	3.5800e-004
tblVehicleEF	UBUS	4.1490e-003	1.2400e-004
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.02	1.6760e-003
tblVehicleEF	UBUS	0.86	7.2610e-003
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.07	1.7860e-003
tblVehicleEF	UBUS	3.29	27.63
tblVehicleEF	UBUS	10.37	0.17
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.30
tblVehicleEF	UBUS	2.79	0.55
tblVehicleEF	UBUS	12.42	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	1.7240e-003	3.8000e-005
tblVehicleEF	UBUS	0.06	3.4400e-004
tblVehicleEF	UBUS	9.9800e-004	2.0000e-005

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tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.03	2.4500e-003
tblVehicleEF	UBUS	0.99	8.3520e-003
tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.6200e-003	1.3000e-005
tblVehicleEF	UBUS	1.7240e-003	3.8000e-005
tblVehicleEF	UBUS	0.06	3.4400e-004
tblVehicleEF	UBUS	9.9800e-004	2.0000e-005
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.03	2.4500e-003
tblVehicleEF	UBUS	1.09	9.1440e-003
tblVehicleTrips	CC_TTP	88.60	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CW_TTP	6.40	0.00
tblVehicleTrips	HO_TL	7.90	0.00
tblVehicleTrips	HO_TL	7.90	0.00
tblVehicleTrips	HO_TL	0.00	6.89
tblVehicleTrips	HO_TTP	0.00	5.00
tblVehicleTrips	HS_TL	7.10	0.00
tblVehicleTrips	HS_TL	7.10	0.00
tblVehicleTrips	HS_TL	0.00	11.65
tblVehicleTrips	HS_TTP	0.00	88.00
tblVehicleTrips	HW_TL	16.80	0.00
tblVehicleTrips	HW_TL	16.80	0.00
tblVehicleTrips	HW_TL	0.00	15.00
tblVehicleTrips	HW_TTP	0.00	7.00
tblVehicleTrips	ST_TR	7.16	0.00

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tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.46
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	0.00	0.46
tblVehicleTrips	WD_TR	6.59	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	1.33
tblWater	IndoorWaterUseRate	13,389,375.00	8,926,250.00
tblWater	IndoorWaterUseRate	35,965,537.32	23,977,222.02
tblWater	IndoorWaterUseRate	554,321,005.26	369,547,336.84
tblWater	OutdoorWaterUseRate	22,043,393.84	14,695,716.72

2.0 Emissions Summary

UCSC - 2020 LRDP - Operational Only - Santa Cruz County, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	3.0481	0.0000	0.0000	2.8232	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	1.4264	0.0000	0.0000	1.3123	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	15.0498	84.2498	128.7328	0.5176	40.7762	0.3898	41.1660	10.9265	0.3641	11.2905	0.0000	52,864.54 21	52,864.54 21	1.7237	0.0000	52,907.63 55
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.1881	0.0000	0.0000	0.1880	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0357	0.0000	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	15.0498	84.2498	128.7328	0.5176	40.7762	3.0481	41.1660	10.9265	2.8232	11.2905	0.0000	52,864.54 21	52,864.54 21	1.7237	0.0000	52,907.63 55

UCSC - 2020 LRDP - Operational Only - Santa Cruz County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	146.0839	1.6192	140.5378	7.4800e-003		0.7805	0.7805		0.7805	0.7805	0.0000	254.5703	254.5703	0.2463	0.0000	260.7287
Energy	2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885
Mobile	26.6402	55.3286	237.6382	0.7900	105.3236	0.4338	105.7574	28.1024	0.4062	28.5086		88,324.9057	88,324.9057	3.1120		88,402.7062
Total	175.3057	80.2229	396.4665	0.9383	105.3236	2.9979	108.3215	28.1024	2.9704	31.0727	0.0000	116,742.5057	116,742.5057	3.8981	0.5163	116,993.8234

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	115.2060	1.2858	106.5677	4.8400e-003		0.5810	0.5810		0.5810	0.5810	0.0000	177.7380	177.7380	0.1283	0.0000	180.9450
Energy	2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885
Mobile	26.6402	55.3286	237.6382	0.7900	105.3236	0.4338	105.7574	28.1024	0.4062	28.5086		88,324.9057	88,324.9057	3.1120		88,402.7062
Total	144.4278	79.8895	362.4964	0.9357	105.3236	2.7984	108.1220	28.1024	2.7709	30.8733	0.0000	116,665.6733	116,665.6733	3.7801	0.5163	116,914.0397

UCSC - 2020 LRDP - Operational Only - Santa Cruz County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	17.61	0.42	8.57	0.28	0.00	6.65	0.18	0.00	6.72	0.64	0.00	0.07	0.07	3.03	0.00	0.07

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/2/2022	5	0	
2	Site Preparation	Site Preparation	10/8/2022	10/7/2022	5	0	
3	Grading	Grading	3/25/2023	3/24/2023	5	0	
4	Building Construction	Building Construction	6/1/2024	6/3/2024	5	1	
5	Paving	Paving	4/19/2036	4/18/2036	5	0	
6	Architectural Coating	Architectural Coating	2/21/2037	2/20/2037	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 43.07

Residential Indoor: 3,436,425; Residential Outdoor: 1,145,475; Non-Residential Indoor: 3,083,825; Non-Residential Outdoor: 1,027,942; Striped Parking Area: 112,577 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

UCSC - 2020 LRDP - Operational Only - Santa Cruz County, Summer

3.4 Grading - 2023

Mitigated Construction Off-Site

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

3.5 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	lb/day										lb/day					
Off-Road	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

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3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.8585	74.4726	18.6518	0.2001	5.0372	0.1344	5.1716	1.4488	0.1285	1.5773		21,227.5505	21,227.5505	0.7498		21,246.2959
Worker	13.1912	9.7773	110.0811	0.3175	35.7390	0.2554	35.9944	9.4776	0.2356	9.7132		31,636.9916	31,636.9916	0.9739		31,661.3396
Total	15.0498	84.2498	128.7328	0.5176	40.7762	0.3898	41.1660	10.9265	0.3641	11.2905		52,864.5421	52,864.5421	1.7237		52,907.6355

Mitigated Construction On-Site

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

UCSC - 2020 LRDP - Operational Only - Santa Cruz County, Summer

3.7 Architectural Coating - 2037

Mitigated Construction Off-Site

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

UCSC - 2020 LRDP - Operational Only - Santa Cruz County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	26.6402	55.3286	237.6382	0.7900	105.3236	0.4338	105.7574	28.1024	0.4062	28.5086		88,324.90 57	88,324.90 57	3.1120		88,402.70 62
Unmitigated	26.6402	55.3286	237.6382	0.7900	105.3236	0.4338	105.7574	28.1024	0.4062	28.5086		88,324.90 57	88,324.90 57	3.1120		88,402.70 62

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	12,609.15	4,344.33	4344.33	40,511,214	40,511,214
Total	12,609.15	4,344.33	4,344.33	40,511,214	40,511,214

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	0.00	0.00	0.00	44.00	18.80	37.20	86	11	3
Apartments Mid Rise	0.00	0.00	0.00	44.00	18.80	37.20	86	11	3
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Research & Development	14.70	6.60	6.60	33.00	48.00	19.00	82	15	3
University/College (4Yr)	14.70	6.60	6.60	0.00	0.00	0.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Apartments Mid Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Apartments Mid Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
General Light Industry	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Health Club	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Parking Lot	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Research & Development	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
University/College (4Yr)	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885
NaturalGas Unmitigated	2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	9489	0.1023	0.8745	0.3721	5.5800e-003		0.0707	0.0707		0.0707	0.0707		1,116.3534	1,116.3534	0.0214	0.0205	1,122.9873
Apartments Mid Rise	23512.4	0.2536	2.1668	0.9221	0.0138		0.1752	0.1752		0.1752	0.1752		2,766.1658	2,766.1658	0.0530	0.0507	2,782.6037
General Light Industry	4027.83	0.0434	0.3949	0.3317	2.3700e-003		0.0300	0.0300		0.0300	0.0300		473.8621	473.8621	9.0800e-003	8.6900e-003	476.6780
Health Club	42301.1	0.4562	4.1472	3.4836	0.0249		0.3152	0.3152		0.3152	0.3152		4,976.6037	4,976.6037	0.0954	0.0912	5,006.1771
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	78421.9	0.8457	7.6884	6.4583	0.0461		0.5843	0.5843		0.5843	0.5843		9,226.1081	9,226.1081	0.1768	0.1692	9,280.9343
University/College (4Yr)	81633.5	0.8804	8.0033	6.7228	0.0480		0.6083	0.6083		0.6083	0.6083		9,603.9366	9,603.9366	0.1841	0.1761	9,661.0080
Total		2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	9.489	0.1023	0.8745	0.3721	5.5800e-003		0.0707	0.0707		0.0707	0.0707		1,116.3534	1,116.3534	0.0214	0.0205	1,122.9873
Apartments Mid Rise	23.5124	0.2536	2.1668	0.9221	0.0138		0.1752	0.1752		0.1752	0.1752		2,766.1658	2,766.1658	0.0530	0.0507	2,782.6037
General Light Industry	4.02783	0.0434	0.3949	0.3317	2.3700e-003		0.0300	0.0300		0.0300	0.0300		473.8621	473.8621	9.0800e-003	8.6900e-003	476.6780
Health Club	42.3011	0.4562	4.1472	3.4836	0.0249		0.3152	0.3152		0.3152	0.3152		4,976.6037	4,976.6037	0.0954	0.0912	5,006.1771
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	78.4219	0.8457	7.6884	6.4583	0.0461		0.5843	0.5843		0.5843	0.5843		9,226.1081	9,226.1081	0.1768	0.1692	9,280.9343
University/College (4Yr)	81.6335	0.8804	8.0033	6.7228	0.0480		0.6083	0.6083		0.6083	0.6083		9,603.9366	9,603.9366	0.1841	0.1761	9,661.0080
Total		2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885

6.0 Area Detail

6.1 Mitigation Measures Area

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Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	115.2060	1.2858	106.5677	4.8400e-003		0.5810	0.5810		0.5810	0.5810	0.0000	177.7380	177.7380	0.1283	0.0000	180.9450
Unmitigated	146.0839	1.6192	140.5378	7.4800e-003		0.7805	0.7805		0.7805	0.7805	0.0000	254.5703	254.5703	0.2463	0.0000	260.7287

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	lb/day										lb/day						
Architectural Coating	20.6884					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Consumer Products	121.1214					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Landscaping	4.2741	1.6192	140.5378	7.4800e-003		0.7805	0.7805		0.7805	0.7805		254.5703	254.5703	0.2463			260.7287
Total	146.0839	1.6192	140.5378	7.4800e-003		0.7805	0.7805		0.7805	0.7805	0.0000	254.5703	254.5703	0.2463	0.0000		260.7287

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	112.1153					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2557	1.2858	106.5677	4.8400e-003		0.5810	0.5810		0.5810	0.5810		177.7380	177.7380	0.1283		180.9450
Total	115.2060	1.2858	106.5677	4.8400e-003		0.5810	0.5810		0.5810	0.5810	0.0000	177.7380	177.7380	0.1283	0.0000	180.9450

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

UCSC - 2020 LRDP - Operational Only - Santa Cruz County, Summer

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	1,127.37	1000sqft	25.88	1,127,373.00	0
University/College (4Yr)	9,482.00	Student	40.01	1,290,438.00	0
General Light Industry	57.90	1000sqft	1.33	57,903.00	0
Parking Lot	43.07	Acre	43.07	1,876,275.00	0
Health Club	608.11	1000sqft	13.96	608,110.00	0
Apartments Low Rise	440.00	Dwelling Unit	27.50	660,000.00	550
Apartments Mid Rise	1,257.00	Dwelling Unit	33.08	1,885,000.00	8500

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	4			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	77.8	CH4 Intensity (lb/MWhr)	0.005	N2O Intensity (lb/MWhr)	0.001

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - UCSC Electricity Emission Factors for 2040 reflect State averages.

Land Use - Values specified in Project Description

Construction Phase - This file is for operational emissions, so construction phases are removed.

Off-road Equipment -

Off-road Equipment - This file is for operational emissions, so construction phases are removed.

Off-road Equipment -

Trips and VMT -

On-road Fugitive Dust -

Demolition -

Architectural Coating -

Vehicle Trips - Adjusted trip length so that avg annual VMT matches VMT in Traffic Study per MM 3.16-1.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Vehicle Emission Factors - Updated to EMFAC2017 and SAFE Rule correction factors applied.

Woodstoves -

Consumer Products -

Area Coating -

Energy Use - Energy intensity rates adjusted to 2019 Title 24 standards.

Water And Wastewater -

Solid Waste -

Sequestration - Using Pine as substitute for redwood trees. 22 trees/acre.

Construction Off-road Equipment Mitigation -

Area Mitigation - Zero-VOC paints and coatings (5 g/L), low-VOC cleaning supplies. 100% electric lawn and garden equipment.

Energy Mitigation -

Fleet Mix -

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Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1,541,912.00	1,027,942.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	4,625,736.00	3,083,825.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,717,875.00	1,145,475.00
tblArchitecturalCoating	ConstArea_Residential_Interior	5,153,625.00	3,436,425.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	5
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	5
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	150	5
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	5
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	5
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	1.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblEnergyUse	T24E	365.68	244.86
tblEnergyUse	T24E	332.81	222.85
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	1.48	1.41
tblEnergyUse	T24E	2.73	2.59
tblEnergyUse	T24NG	7,043.85	4,716.56

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tblEnergyUse	T24NG	5,484.45	3,672.39
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	19.71	18.72
tblEnergyUse	T24NG	20.83	19.79
tblGrading	AcresOfGrading	0.00	775.00
tblLandUse	LandUseSquareFeet	1,127,370.00	1,127,373.00
tblLandUse	LandUseSquareFeet	1,742,767.59	1,290,438.00
tblLandUse	LandUseSquareFeet	57,900.00	57,903.00
tblLandUse	LandUseSquareFeet	1,876,129.20	1,876,275.00
tblLandUse	LandUseSquareFeet	440,000.00	660,000.00
tblLandUse	LandUseSquareFeet	1,257,000.00	1,885,000.00
tblLandUse	Population	1,258.00	550.00
tblLandUse	Population	3,595.00	8,500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.005
tblProjectCharacteristics	CO2IntensityFactor	641.35	77.8
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.001
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSequestration	NumberOfNewTrees	0.00	-3,386.00
tblSolidWaste	SolidWasteGenerationRate	71.80	47.86
tblSolidWaste	SolidWasteGenerationRate	3,466.23	2,310.84
tblSolidWaste	SolidWasteGenerationRate	85.67	57.11

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tblTripsAndVMT	VendorTripNumber	994.00	826.00
tblTripsAndVMT	WorkerTripNumber	3,192.00	2,798.00
tblTripsAndVMT	WorkerTripNumber	638.00	560.00
tblVehicleEF	HHD	0.24	0.19
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.31	54.39
tblVehicleEF	HHD	1.00	0.41
tblVehicleEF	HHD	3.88	7.9690e-003
tblVehicleEF	HHD	3,651.43	7,280.05
tblVehicleEF	HHD	1,576.81	1,181.05
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.60	45.97
tblVehicleEF	HHD	1.50	2.41
tblVehicleEF	HHD	19.34	3.06
tblVehicleEF	HHD	3.4070e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.2590e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	8.2000e-005	2.7000e-005
tblVehicleEF	HHD	4.5610e-003	7.4000e-005

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tblVehicleEF	HHD	0.34	3.69
tblVehicleEF	HHD	5.4000e-005	1.8000e-005
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	5.9400e-004	3.7800e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7400e-004	1.0000e-006
tblVehicleEF	HHD	8.2000e-005	2.7000e-005
tblVehicleEF	HHD	4.5610e-003	7.4000e-005
tblVehicleEF	HHD	0.39	4.21
tblVehicleEF	HHD	5.4000e-005	1.8000e-005
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	5.9400e-004	3.7800e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.23	0.20
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	0.95	53.65
tblVehicleEF	HHD	1.02	0.42
tblVehicleEF	HHD	3.53	7.2410e-003
tblVehicleEF	HHD	3,868.33	7,196.62
tblVehicleEF	HHD	1,576.81	1,181.06
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.98	43.90
tblVehicleEF	HHD	1.44	2.33
tblVehicleEF	HHD	19.32	3.06

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tblVehicleEF	HHD	2.8760e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	2.7520e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	5.3000e-005
tblVehicleEF	HHD	4.6920e-003	7.6000e-005
tblVehicleEF	HHD	0.32	3.90
tblVehicleEF	HHD	1.0600e-004	3.5000e-005
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	5.5500e-004	3.5300e-004
tblVehicleEF	HHD	0.06	2.0000e-006
tblVehicleEF	HHD	0.04	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.6800e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	5.3000e-005
tblVehicleEF	HHD	4.6920e-003	7.6000e-005
tblVehicleEF	HHD	0.37	4.46
tblVehicleEF	HHD	1.0600e-004	3.5000e-005
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	5.5500e-004	3.5300e-004
tblVehicleEF	HHD	0.07	2.0000e-006

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tblVehicleEF	HHD	0.26	0.17
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.80	55.42
tblVehicleEF	HHD	0.99	0.41
tblVehicleEF	HHD	4.21	8.6450e-003
tblVehicleEF	HHD	3,351.89	7,395.27
tblVehicleEF	HHD	1,576.81	1,181.05
tblVehicleEF	HHD	11.12	0.06
tblVehicleEF	HHD	11.09	48.82
tblVehicleEF	HHD	1.52	2.44
tblVehicleEF	HHD	19.36	3.06
tblVehicleEF	HHD	4.1390e-003	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	5.4400e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.9600e-003	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4960e-003	8.6080e-003
tblVehicleEF	HHD	5.2040e-003	0.02
tblVehicleEF	HHD	1.2500e-004	1.0000e-006
tblVehicleEF	HHD	4.1000e-005	1.4000e-005
tblVehicleEF	HHD	4.6400e-003	7.5000e-005
tblVehicleEF	HHD	0.37	3.39
tblVehicleEF	HHD	2.1000e-005	7.0000e-006
tblVehicleEF	HHD	0.08	0.02

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tblVehicleEF	HHD	6.7000e-004	4.2700e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7900e-004	1.0000e-006
tblVehicleEF	HHD	4.1000e-005	1.4000e-005
tblVehicleEF	HHD	4.6400e-003	7.5000e-005
tblVehicleEF	HHD	0.42	3.87
tblVehicleEF	HHD	2.1000e-005	7.0000e-006
tblVehicleEF	HHD	0.14	0.07
tblVehicleEF	HHD	6.7000e-004	4.2700e-004
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	LDA	1.6390e-003	7.5900e-004
tblVehicleEF	LDA	9.0100e-004	0.02
tblVehicleEF	LDA	0.29	0.39
tblVehicleEF	LDA	0.44	1.56
tblVehicleEF	LDA	168.86	206.82
tblVehicleEF	LDA	36.04	41.63
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.12
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	8.1950e-003	0.06
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	7.7480e-003	0.06

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tblVehicleEF	LDA	4.1300e-003	2.3880e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.01	0.08
tblVehicleEF	LDA	1.6890e-003	1.8340e-003
tblVehicleEF	LDA	3.6700e-004	3.6900e-004
tblVehicleEF	LDA	8.1950e-003	0.06
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	7.7480e-003	0.06
tblVehicleEF	LDA	6.0000e-003	3.4550e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDA	1.7670e-003	8.3200e-004
tblVehicleEF	LDA	7.5200e-004	0.02
tblVehicleEF	LDA	0.32	0.44
tblVehicleEF	LDA	0.34	1.23
tblVehicleEF	LDA	177.42	217.05
tblVehicleEF	LDA	36.04	41.01
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	4.4460e-003	2.5670e-003

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tblVehicleEF	LDA	0.03	0.14
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.7750e-003	1.9240e-003
tblVehicleEF	LDA	3.6500e-004	3.6300e-004
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.11
tblVehicleEF	LDA	6.4610e-003	3.7160e-003
tblVehicleEF	LDA	0.03	0.14
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.6100e-003	7.3600e-004
tblVehicleEF	LDA	1.0270e-003	0.02
tblVehicleEF	LDA	0.29	0.40
tblVehicleEF	LDA	0.51	1.82
tblVehicleEF	LDA	168.71	206.65
tblVehicleEF	LDA	36.04	42.12
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.02	0.13
tblVehicleEF	LDA	8.1600e-004	6.9100e-004
tblVehicleEF	LDA	1.0810e-003	8.0600e-004
tblVehicleEF	LDA	7.5000e-004	6.3500e-004
tblVehicleEF	LDA	9.9300e-004	7.4100e-004
tblVehicleEF	LDA	3.5800e-003	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	2.4830e-003	0.02
tblVehicleEF	LDA	4.0590e-003	2.3470e-003
tblVehicleEF	LDA	0.03	0.20

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tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDA	1.6880e-003	1.8320e-003
tblVehicleEF	LDA	3.6800e-004	3.7300e-004
tblVehicleEF	LDA	3.5800e-003	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	2.4830e-003	0.02
tblVehicleEF	LDA	5.8960e-003	3.3960e-003
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.02	0.10
tblVehicleEF	LDT1	1.9070e-003	9.4600e-004
tblVehicleEF	LDT1	1.2100e-003	0.03
tblVehicleEF	LDT1	0.32	0.43
tblVehicleEF	LDT1	0.51	1.75
tblVehicleEF	LDT1	209.63	252.15
tblVehicleEF	LDT1	45.37	51.97
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.02	0.15
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	4.7310e-003	3.0380e-003
tblVehicleEF	LDT1	0.03	0.28
tblVehicleEF	LDT1	0.02	0.10

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tblVehicleEF	LDT1	2.0980e-003	2.2340e-003
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.01	0.12
tblVehicleEF	LDT1	6.8990e-003	4.4320e-003
tblVehicleEF	LDT1	0.03	0.28
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT1	2.0550e-003	1.0350e-003
tblVehicleEF	LDT1	1.0090e-003	0.02
tblVehicleEF	LDT1	0.35	0.47
tblVehicleEF	LDT1	0.40	1.37
tblVehicleEF	LDT1	220.22	262.77
tblVehicleEF	LDT1	45.37	51.26
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	0.02	0.24
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.02	0.23
tblVehicleEF	LDT1	5.0950e-003	3.2690e-003
tblVehicleEF	LDT1	0.03	0.25
tblVehicleEF	LDT1	0.01	0.08
tblVehicleEF	LDT1	2.2040e-003	2.3280e-003
tblVehicleEF	LDT1	4.6000e-004	4.5400e-004

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tblVehicleEF	LDT1	0.02	0.24
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.02	0.23
tblVehicleEF	LDT1	7.4310e-003	4.7690e-003
tblVehicleEF	LDT1	0.03	0.25
tblVehicleEF	LDT1	0.01	0.09
tblVehicleEF	LDT1	1.8740e-003	9.1700e-004
tblVehicleEF	LDT1	1.3790e-003	0.03
tblVehicleEF	LDT1	0.32	0.43
tblVehicleEF	LDT1	0.60	2.04
tblVehicleEF	LDT1	209.45	251.97
tblVehicleEF	LDT1	45.37	52.53
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.16
tblVehicleEF	LDT1	8.7200e-004	7.9700e-004
tblVehicleEF	LDT1	1.1670e-003	9.7700e-004
tblVehicleEF	LDT1	8.0200e-004	7.3300e-004
tblVehicleEF	LDT1	1.0730e-003	8.9800e-004
tblVehicleEF	LDT1	5.0240e-003	0.06
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	3.4640e-003	0.04
tblVehicleEF	LDT1	4.6480e-003	2.9850e-003
tblVehicleEF	LDT1	0.04	0.33
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT1	2.0960e-003	2.2330e-003
tblVehicleEF	LDT1	4.6300e-004	4.6500e-004
tblVehicleEF	LDT1	5.0240e-003	0.06

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tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	3.4640e-003	0.04
tblVehicleEF	LDT1	6.7780e-003	4.3540e-003
tblVehicleEF	LDT1	0.04	0.33
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT2	2.8190e-003	1.2600e-003
tblVehicleEF	LDT2	2.3310e-003	0.03
tblVehicleEF	LDT2	0.47	0.50
tblVehicleEF	LDT2	0.79	2.20
tblVehicleEF	LDT2	252.42	252.46
tblVehicleEF	LDT2	55.17	53.02
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.15
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.02	0.15
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.02	0.16
tblVehicleEF	LDT2	7.0170e-003	4.4720e-003
tblVehicleEF	LDT2	0.05	0.28
tblVehicleEF	LDT2	0.03	0.13
tblVehicleEF	LDT2	2.5270e-003	2.2380e-003
tblVehicleEF	LDT2	5.6400e-004	4.7000e-004
tblVehicleEF	LDT2	0.02	0.15
tblVehicleEF	LDT2	0.07	0.07

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tblVehicleEF	LDT2	0.02	0.16
tblVehicleEF	LDT2	0.01	6.4570e-003
tblVehicleEF	LDT2	0.05	0.28
tblVehicleEF	LDT2	0.03	0.15
tblVehicleEF	LDT2	3.0340e-003	1.3780e-003
tblVehicleEF	LDT2	1.9960e-003	0.03
tblVehicleEF	LDT2	0.52	0.55
tblVehicleEF	LDT2	0.66	1.72
tblVehicleEF	LDT2	264.93	262.08
tblVehicleEF	LDT2	55.17	52.11
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.04	0.13
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.05	0.32
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.04	0.29
tblVehicleEF	LDT2	7.5500e-003	4.7960e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.03	0.11
tblVehicleEF	LDT2	2.6530e-003	2.3240e-003
tblVehicleEF	LDT2	5.6200e-004	4.6200e-004
tblVehicleEF	LDT2	0.05	0.32
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.04	0.29

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tblVehicleEF	LDT2	0.01	6.9310e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	2.7690e-003	1.2220e-003
tblVehicleEF	LDT2	2.6130e-003	0.04
tblVehicleEF	LDT2	0.48	0.51
tblVehicleEF	LDT2	0.90	2.58
tblVehicleEF	LDT2	252.21	252.31
tblVehicleEF	LDT2	55.17	53.73
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.16
tblVehicleEF	LDT2	1.0120e-003	8.0000e-004
tblVehicleEF	LDT2	1.3740e-003	9.1700e-004
tblVehicleEF	LDT2	9.3100e-004	7.3700e-004
tblVehicleEF	LDT2	1.2640e-003	8.4300e-004
tblVehicleEF	LDT2	0.01	0.07
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	7.6010e-003	0.05
tblVehicleEF	LDT2	6.8940e-003	4.3970e-003
tblVehicleEF	LDT2	0.07	0.34
tblVehicleEF	LDT2	0.04	0.15
tblVehicleEF	LDT2	2.5250e-003	2.2370e-003
tblVehicleEF	LDT2	5.6600e-004	4.7600e-004
tblVehicleEF	LDT2	0.01	0.07
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	7.6010e-003	0.05
tblVehicleEF	LDT2	0.01	6.3480e-003

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tblVehicleEF	LDT2	0.07	0.34
tblVehicleEF	LDT2	0.04	0.17
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.3310e-003	3.9600e-003
tblVehicleEF	LHD1	8.2940e-003	7.2240e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.47	0.37
tblVehicleEF	LHD1	1.29	0.76
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.76
tblVehicleEF	LHD1	27.02	8.68
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.42	0.20
tblVehicleEF	LHD1	0.57	0.19
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003
tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	1.2360e-003	0.01
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	8.0900e-004	9.2900e-003
tblVehicleEF	LHD1	0.09	0.06

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tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9400e-004	8.6000e-005
tblVehicleEF	LHD1	1.2360e-003	0.01
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	8.0900e-004	9.2900e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.3890e-003	4.0070e-003
tblVehicleEF	LHD1	7.7400e-003	6.7790e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.47	0.38
tblVehicleEF	LHD1	1.18	0.70
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.76
tblVehicleEF	LHD1	27.02	8.57
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.41	0.19
tblVehicleEF	LHD1	0.53	0.17
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003

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tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	2.3600e-003	0.03
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	1.5530e-003	0.02
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.14	0.22
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9200e-004	8.5000e-005
tblVehicleEF	LHD1	2.3600e-003	0.03
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	1.5530e-003	0.02
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.14	0.22
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	3.7210e-003	0.05
tblVehicleEF	LHD1	5.2920e-003	3.9290e-003
tblVehicleEF	LHD1	8.7320e-003	7.5750e-003
tblVehicleEF	LHD1	0.14	2.44
tblVehicleEF	LHD1	0.46	0.37

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tblVehicleEF	LHD1	1.39	0.82
tblVehicleEF	LHD1	8.78	107.82
tblVehicleEF	LHD1	634.75	658.75
tblVehicleEF	LHD1	27.02	8.78
tblVehicleEF	LHD1	0.05	0.55
tblVehicleEF	LHD1	0.43	0.20
tblVehicleEF	LHD1	0.61	0.20
tblVehicleEF	LHD1	6.4300e-004	0.01
tblVehicleEF	LHD1	0.01	9.8730e-003
tblVehicleEF	LHD1	8.2610e-003	6.0220e-003
tblVehicleEF	LHD1	5.6600e-004	1.7600e-004
tblVehicleEF	LHD1	6.1500e-004	0.01
tblVehicleEF	LHD1	2.5870e-003	2.4680e-003
tblVehicleEF	LHD1	7.8720e-003	5.7180e-003
tblVehicleEF	LHD1	5.2100e-004	1.6200e-004
tblVehicleEF	LHD1	6.2900e-004	7.2020e-003
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.01	0.22
tblVehicleEF	LHD1	3.1500e-004	3.5920e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD1	8.7000e-005	1.0440e-003
tblVehicleEF	LHD1	6.2040e-003	6.4250e-003
tblVehicleEF	LHD1	2.9500e-004	8.7000e-005
tblVehicleEF	LHD1	6.2900e-004	7.2020e-003
tblVehicleEF	LHD1	0.07	0.05

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tblVehicleEF	LHD1	0.02	0.30
tblVehicleEF	LHD1	3.1500e-004	3.5920e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	0.13	0.04
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7450e-003	5.0520e-003
tblVehicleEF	LHD2	2.1760e-003	3.0390e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.84	0.38
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.02
tblVehicleEF	LHD2	21.05	4.98
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.33
tblVehicleEF	LHD2	0.20	0.09
tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	3.7200e-004	5.8640e-003
tblVehicleEF	LHD2	0.01	0.02

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tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	2.4200e-004	3.8700e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003
tblVehicleEF	LHD2	2.2400e-004	4.9000e-005
tblVehicleEF	LHD2	3.7200e-004	5.8640e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	2.4200e-004	3.8700e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7720e-003	5.0740e-003
tblVehicleEF	LHD2	2.1430e-003	2.8520e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.77	0.35
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.02
tblVehicleEF	LHD2	21.05	4.93
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.32
tblVehicleEF	LHD2	0.19	0.08

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tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	7.3200e-004	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	4.7800e-004	7.5310e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003
tblVehicleEF	LHD2	2.2300e-004	4.9000e-005
tblVehicleEF	LHD2	7.3200e-004	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	4.7800e-004	7.5310e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1810e-003	0.03
tblVehicleEF	LHD2	4.7280e-003	5.0370e-003

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tblVehicleEF	LHD2	2.2020e-003	3.1870e-003
tblVehicleEF	LHD2	0.12	1.69
tblVehicleEF	LHD2	0.44	0.50
tblVehicleEF	LHD2	0.90	0.41
tblVehicleEF	LHD2	13.35	165.21
tblVehicleEF	LHD2	662.14	631.01
tblVehicleEF	LHD2	21.05	5.03
tblVehicleEF	LHD2	0.05	0.89
tblVehicleEF	LHD2	0.10	0.34
tblVehicleEF	LHD2	0.20	0.09
tblVehicleEF	LHD2	8.7800e-004	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.4910e-003	0.01
tblVehicleEF	LHD2	3.8100e-004	8.5000e-005
tblVehicleEF	LHD2	8.4000e-004	0.02
tblVehicleEF	LHD2	2.7110e-003	2.7290e-003
tblVehicleEF	LHD2	7.1430e-003	0.01
tblVehicleEF	LHD2	3.5000e-004	7.8000e-005
tblVehicleEF	LHD2	1.8500e-004	2.9740e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.16
tblVehicleEF	LHD2	9.3000e-005	1.4940e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.5760e-003
tblVehicleEF	LHD2	6.4320e-003	6.0800e-003

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tblVehicleEF	LHD2	2.2500e-004	5.0000e-005
tblVehicleEF	LHD2	1.8500e-004	2.9740e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.21
tblVehicleEF	LHD2	9.3000e-005	1.4940e-003
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	MCY	0.53	0.36
tblVehicleEF	MCY	0.17	0.26
tblVehicleEF	MCY	18.33	18.38
tblVehicleEF	MCY	10.94	9.75
tblVehicleEF	MCY	182.27	219.06
tblVehicleEF	MCY	43.71	61.12
tblVehicleEF	MCY	1.18	1.19
tblVehicleEF	MCY	0.32	0.28
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	0.75	1.56
tblVehicleEF	MCY	0.74	0.77
tblVehicleEF	MCY	0.37	0.77
tblVehicleEF	MCY	2.48	2.49
tblVehicleEF	MCY	0.47	1.31
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MCY	2.1980e-003	2.1680e-003

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tblVehicleEF	MCY	6.8200e-004	6.0500e-004
tblVehicleEF	MCY	0.75	1.56
tblVehicleEF	MCY	0.74	0.77
tblVehicleEF	MCY	0.37	0.77
tblVehicleEF	MCY	3.10	3.11
tblVehicleEF	MCY	0.47	1.31
tblVehicleEF	MCY	2.46	2.19
tblVehicleEF	MCY	0.51	0.35
tblVehicleEF	MCY	0.14	0.21
tblVehicleEF	MCY	16.96	17.00
tblVehicleEF	MCY	9.17	8.10
tblVehicleEF	MCY	182.27	216.52
tblVehicleEF	MCY	43.71	57.27
tblVehicleEF	MCY	1.05	1.05
tblVehicleEF	MCY	0.30	0.25
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	1.84	3.79
tblVehicleEF	MCY	0.88	0.92
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	2.39	2.39
tblVehicleEF	MCY	0.41	1.15
tblVehicleEF	MCY	1.86	1.64
tblVehicleEF	MCY	2.1730e-003	2.1430e-003
tblVehicleEF	MCY	6.4100e-004	5.6700e-004

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tblVehicleEF	MCY	1.84	3.79
tblVehicleEF	MCY	0.88	0.92
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	2.98	2.99
tblVehicleEF	MCY	0.41	1.15
tblVehicleEF	MCY	2.02	1.78
tblVehicleEF	MCY	0.54	0.37
tblVehicleEF	MCY	0.19	0.30
tblVehicleEF	MCY	19.75	19.80
tblVehicleEF	MCY	12.83	11.48
tblVehicleEF	MCY	182.27	221.65
tblVehicleEF	MCY	43.71	65.04
tblVehicleEF	MCY	1.26	1.26
tblVehicleEF	MCY	0.35	0.30
tblVehicleEF	MCY	2.5480e-003	2.5190e-003
tblVehicleEF	MCY	3.1890e-003	2.7330e-003
tblVehicleEF	MCY	2.3770e-003	2.3500e-003
tblVehicleEF	MCY	2.9820e-003	2.5560e-003
tblVehicleEF	MCY	0.22	0.45
tblVehicleEF	MCY	0.83	0.87
tblVehicleEF	MCY	0.11	0.22
tblVehicleEF	MCY	2.57	2.58
tblVehicleEF	MCY	0.58	1.61
tblVehicleEF	MCY	2.65	2.36
tblVehicleEF	MCY	2.2240e-003	2.1930e-003
tblVehicleEF	MCY	7.2500e-004	6.4400e-004
tblVehicleEF	MCY	0.22	0.45

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tblVehicleEF	MCY	0.83	0.87
tblVehicleEF	MCY	0.11	0.22
tblVehicleEF	MCY	3.21	3.22
tblVehicleEF	MCY	0.58	1.61
tblVehicleEF	MCY	2.88	2.57
tblVehicleEF	MDV	4.6980e-003	1.3630e-003
tblVehicleEF	MDV	6.0110e-003	0.03
tblVehicleEF	MDV	0.64	0.51
tblVehicleEF	MDV	1.36	2.26
tblVehicleEF	MDV	339.26	305.96
tblVehicleEF	MDV	73.02	62.75
tblVehicleEF	MDV	0.07	0.03
tblVehicleEF	MDV	0.12	0.17
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.01	4.9950e-003
tblVehicleEF	MDV	0.08	0.29
tblVehicleEF	MDV	0.08	0.15
tblVehicleEF	MDV	3.3930e-003	2.7170e-003
tblVehicleEF	MDV	7.5300e-004	5.5600e-004
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.13	0.09

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tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.02	7.1990e-003
tblVehicleEF	MDV	0.08	0.29
tblVehicleEF	MDV	0.09	0.16
tblVehicleEF	MDV	5.0540e-003	1.4900e-003
tblVehicleEF	MDV	5.0610e-003	0.03
tblVehicleEF	MDV	0.70	0.56
tblVehicleEF	MDV	1.10	1.76
tblVehicleEF	MDV	355.62	315.48
tblVehicleEF	MDV	73.02	61.81
tblVehicleEF	MDV	0.06	0.03
tblVehicleEF	MDV	0.11	0.15
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.09	0.39
tblVehicleEF	MDV	0.01	5.3540e-003
tblVehicleEF	MDV	0.07	0.26
tblVehicleEF	MDV	0.07	0.12
tblVehicleEF	MDV	3.5580e-003	2.8010e-003
tblVehicleEF	MDV	7.4800e-004	5.4800e-004
tblVehicleEF	MDV	0.09	0.43
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.09	0.39

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tblVehicleEF	MDV	0.02	7.7230e-003
tblVehicleEF	MDV	0.07	0.26
tblVehicleEF	MDV	0.07	0.13
tblVehicleEF	MDV	4.6150e-003	1.3220e-003
tblVehicleEF	MDV	6.8120e-003	0.04
tblVehicleEF	MDV	0.64	0.51
tblVehicleEF	MDV	1.56	2.64
tblVehicleEF	MDV	338.97	305.81
tblVehicleEF	MDV	73.02	63.49
tblVehicleEF	MDV	0.07	0.03
tblVehicleEF	MDV	0.13	0.18
tblVehicleEF	MDV	1.0950e-003	7.8800e-004
tblVehicleEF	MDV	1.4560e-003	9.1600e-004
tblVehicleEF	MDV	1.0080e-003	7.2600e-004
tblVehicleEF	MDV	1.3390e-003	8.4200e-004
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	0.01	4.9120e-003
tblVehicleEF	MDV	0.10	0.35
tblVehicleEF	MDV	0.09	0.17
tblVehicleEF	MDV	3.3900e-003	2.7150e-003
tblVehicleEF	MDV	7.5700e-004	5.6300e-004
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	0.02	7.0780e-003

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tblVehicleEF	MDV	0.10	0.35
tblVehicleEF	MDV	0.10	0.18
tblVehicleEF	MH	5.4220e-003	4.1740e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.26	0.23
tblVehicleEF	MH	3.31	1.50
tblVehicleEF	MH	1,176.44	1,266.18
tblVehicleEF	MH	55.59	14.09
tblVehicleEF	MH	0.77	1.12
tblVehicleEF	MH	0.58	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.14	0.01
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	3.9420e-003	0.24
tblVehicleEF	MH	0.20	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1400e-004	1.3900e-004
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.14	0.01

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tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	3.9420e-003	0.24
tblVehicleEF	MH	0.22	0.08
tblVehicleEF	MH	5.6040e-003	4.2710e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.27	0.23
tblVehicleEF	MH	3.00	1.37
tblVehicleEF	MH	1,176.44	1,266.19
tblVehicleEF	MH	55.59	13.86
tblVehicleEF	MH	0.73	1.08
tblVehicleEF	MH	0.53	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.54	0.04
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	3.7600e-003	0.23
tblVehicleEF	MH	0.19	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.0800e-004	1.3700e-004
tblVehicleEF	MH	0.54	0.04
tblVehicleEF	MH	0.03	0.02

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tblVehicleEF	MH	0.28	0.02
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	3.7600e-003	0.23
tblVehicleEF	MH	0.21	0.07
tblVehicleEF	MH	5.3060e-003	4.1110e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.26	0.22
tblVehicleEF	MH	3.62	1.65
tblVehicleEF	MH	1,176.44	1,266.18
tblVehicleEF	MH	55.59	14.33
tblVehicleEF	MH	0.78	1.14
tblVehicleEF	MH	0.62	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.8580e-003	0.02
tblVehicleEF	MH	8.5700e-004	2.0300e-004
tblVehicleEF	MH	3.2250e-003	3.3350e-003
tblVehicleEF	MH	9.3920e-003	0.02
tblVehicleEF	MH	7.8800e-004	1.8700e-004
tblVehicleEF	MH	0.15	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.06	4.9680e-003
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	4.3120e-003	0.26
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1900e-004	1.4200e-004
tblVehicleEF	MH	0.15	0.01

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tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	0.06	4.9680e-003
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	4.3120e-003	0.26
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2480e-003	7.7200e-004
tblVehicleEF	MHD	0.03	3.1220e-003
tblVehicleEF	MHD	0.26	3.73
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	1.99	0.30
tblVehicleEF	MHD	178.42	592.23
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.93
tblVehicleEF	MHD	0.49	3.22
tblVehicleEF	MHD	1.08	1.49
tblVehicleEF	MHD	14.07	1.96
tblVehicleEF	MHD	5.8000e-005	9.6200e-004
tblVehicleEF	MHD	3.0680e-003	7.5170e-003
tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	5.6000e-005	9.2100e-004
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	3.1900e-004	1.7150e-003
tblVehicleEF	MHD	0.02	5.0230e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	2.1000e-004	1.1250e-003

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tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	7.1260e-003	0.03
tblVehicleEF	MHD	0.13	0.02
tblVehicleEF	MHD	1.7100e-003	5.6140e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	4.0000e-004	2.9000e-005
tblVehicleEF	MHD	3.1900e-004	1.7150e-003
tblVehicleEF	MHD	0.02	5.0230e-003
tblVehicleEF	MHD	0.03	0.21
tblVehicleEF	MHD	2.1000e-004	1.1250e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	7.1260e-003	0.03
tblVehicleEF	MHD	0.14	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2610e-003	7.8700e-004
tblVehicleEF	MHD	0.03	2.9270e-003
tblVehicleEF	MHD	0.17	3.16
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	1.81	0.27
tblVehicleEF	MHD	189.21	587.50
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.89
tblVehicleEF	MHD	0.50	3.07
tblVehicleEF	MHD	1.05	1.44
tblVehicleEF	MHD	14.05	1.96
tblVehicleEF	MHD	4.9000e-005	8.4500e-004
tblVehicleEF	MHD	3.0680e-003	7.5170e-003

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tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	4.7000e-005	8.0900e-004
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	6.2200e-004	3.3590e-003
tblVehicleEF	MHD	0.02	5.1730e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	4.1100e-004	2.2120e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	6.6650e-003	0.02
tblVehicleEF	MHD	0.12	0.01
tblVehicleEF	MHD	1.8120e-003	5.5700e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	3.9700e-004	2.9000e-005
tblVehicleEF	MHD	6.2200e-004	3.3590e-003
tblVehicleEF	MHD	0.02	5.1730e-003
tblVehicleEF	MHD	0.02	0.20
tblVehicleEF	MHD	4.1100e-004	2.2120e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	6.6650e-003	0.02
tblVehicleEF	MHD	0.13	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.2400e-003	7.6200e-004
tblVehicleEF	MHD	0.03	3.2720e-003
tblVehicleEF	MHD	0.33	4.16
tblVehicleEF	MHD	0.23	0.13
tblVehicleEF	MHD	2.16	0.32

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tblVehicleEF	MHD	163.98	600.32
tblVehicleEF	MHD	1,157.71	883.00
tblVehicleEF	MHD	36.55	2.98
tblVehicleEF	MHD	0.47	3.41
tblVehicleEF	MHD	1.10	1.51
tblVehicleEF	MHD	14.09	1.96
tblVehicleEF	MHD	7.1000e-005	1.1240e-003
tblVehicleEF	MHD	3.0680e-003	7.5170e-003
tblVehicleEF	MHD	5.1900e-004	4.1000e-005
tblVehicleEF	MHD	6.8000e-005	1.0750e-003
tblVehicleEF	MHD	2.9320e-003	7.1870e-003
tblVehicleEF	MHD	4.7700e-004	3.8000e-005
tblVehicleEF	MHD	1.6100e-004	8.6100e-004
tblVehicleEF	MHD	0.02	5.1140e-003
tblVehicleEF	MHD	0.02	0.15
tblVehicleEF	MHD	8.1000e-005	4.3200e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	8.0270e-003	0.03
tblVehicleEF	MHD	0.14	0.02
tblVehicleEF	MHD	1.5730e-003	5.6900e-003
tblVehicleEF	MHD	0.01	8.4030e-003
tblVehicleEF	MHD	4.0300e-004	2.9000e-005
tblVehicleEF	MHD	1.6100e-004	8.6100e-004
tblVehicleEF	MHD	0.02	5.1140e-003
tblVehicleEF	MHD	0.03	0.21
tblVehicleEF	MHD	8.1000e-005	4.3200e-004
tblVehicleEF	MHD	0.05	0.01

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tblVehicleEF	MHD	8.0270e-003	0.03
tblVehicleEF	MHD	0.15	0.02
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.4180e-003	3.2250e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	9.37
tblVehicleEF	OBUS	0.29	0.33
tblVehicleEF	OBUS	4.36	1.53
tblVehicleEF	OBUS	87.86	1,204.87
tblVehicleEF	OBUS	1,290.02	1,289.82
tblVehicleEF	OBUS	67.94	12.35
tblVehicleEF	OBUS	0.19	5.49
tblVehicleEF	OBUS	0.65	1.10
tblVehicleEF	OBUS	1.75	1.20
tblVehicleEF	OBUS	1.7000e-005	1.8470e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	1.7000e-005	1.7670e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003
tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	1.1160e-003	0.02
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.79
tblVehicleEF	OBUS	5.5400e-004	0.01
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.24
tblVehicleEF	OBUS	0.28	0.08

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tblVehicleEF	OBUS	8.5000e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.5600e-004	1.2200e-004
tblVehicleEF	OBUS	1.1160e-003	0.02
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	1.03
tblVehicleEF	OBUS	5.5400e-004	0.01
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.05	0.24
tblVehicleEF	OBUS	0.31	0.08
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.5470e-003	3.3510e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	9.29
tblVehicleEF	OBUS	0.30	0.34
tblVehicleEF	OBUS	3.96	1.39
tblVehicleEF	OBUS	92.09	1,190.97
tblVehicleEF	OBUS	1,290.02	1,289.84
tblVehicleEF	OBUS	67.94	12.11
tblVehicleEF	OBUS	0.19	5.22
tblVehicleEF	OBUS	0.62	1.06
tblVehicleEF	OBUS	1.69	1.18
tblVehicleEF	OBUS	1.5000e-005	1.6410e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	1.4000e-005	1.5700e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003

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tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	2.1480e-003	0.04
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.81
tblVehicleEF	OBUS	1.1070e-003	0.02
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.23
tblVehicleEF	OBUS	0.26	0.07
tblVehicleEF	OBUS	8.9100e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.4900e-004	1.2000e-004
tblVehicleEF	OBUS	2.1480e-003	0.04
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	1.06
tblVehicleEF	OBUS	1.1070e-003	0.02
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.05	0.23
tblVehicleEF	OBUS	0.29	0.08
tblVehicleEF	OBUS	0.01	0.12
tblVehicleEF	OBUS	4.3350e-003	3.1420e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.26	9.48
tblVehicleEF	OBUS	0.29	0.32
tblVehicleEF	OBUS	4.78	1.68
tblVehicleEF	OBUS	82.02	1,224.08
tblVehicleEF	OBUS	1,290.02	1,289.81
tblVehicleEF	OBUS	67.94	12.60

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tblVehicleEF	OBUS	0.18	5.87
tblVehicleEF	OBUS	0.66	1.12
tblVehicleEF	OBUS	1.79	1.21
tblVehicleEF	OBUS	2.1000e-005	2.1310e-003
tblVehicleEF	OBUS	2.5170e-003	7.3860e-003
tblVehicleEF	OBUS	1.0690e-003	1.4300e-004
tblVehicleEF	OBUS	2.0000e-005	2.0390e-003
tblVehicleEF	OBUS	2.3760e-003	7.0390e-003
tblVehicleEF	OBUS	9.8300e-004	1.3100e-004
tblVehicleEF	OBUS	5.9200e-004	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.76
tblVehicleEF	OBUS	2.4400e-004	4.9660e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.06	0.26
tblVehicleEF	OBUS	0.30	0.08
tblVehicleEF	OBUS	7.9500e-004	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6300e-004	1.2500e-004
tblVehicleEF	OBUS	5.9200e-004	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.99
tblVehicleEF	OBUS	2.4400e-004	4.9660e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.06	0.26
tblVehicleEF	OBUS	0.33	0.09
tblVehicleEF	SBUS	0.84	0.59

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tblVehicleEF	SBUS	3.2920e-003	1.4860e-003
tblVehicleEF	SBUS	0.06	0.01
tblVehicleEF	SBUS	5.90	27.54
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	4.75	1.82
tblVehicleEF	SBUS	1,123.21	2,870.44
tblVehicleEF	SBUS	1,068.95	883.72
tblVehicleEF	SBUS	40.19	9.64
tblVehicleEF	SBUS	2.65	12.99
tblVehicleEF	SBUS	1.03	1.50
tblVehicleEF	SBUS	14.15	1.63
tblVehicleEF	SBUS	2.0500e-004	3.2780e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	1.9700e-004	3.1360e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003
tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	2.3390e-003	5.5350e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.72	2.70
tblVehicleEF	SBUS	1.1850e-003	2.7720e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.11
tblVehicleEF	SBUS	0.25	0.07
tblVehicleEF	SBUS	0.01	0.03

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tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	4.8400e-004	9.5000e-005
tblVehicleEF	SBUS	2.3390e-003	5.5350e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.04	3.88
tblVehicleEF	SBUS	1.1850e-003	2.7720e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.11
tblVehicleEF	SBUS	0.28	0.08
tblVehicleEF	SBUS	0.84	0.59
tblVehicleEF	SBUS	3.3440e-003	1.5120e-003
tblVehicleEF	SBUS	0.05	0.01
tblVehicleEF	SBUS	5.85	27.39
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	3.52	1.35
tblVehicleEF	SBUS	1,178.17	2,850.52
tblVehicleEF	SBUS	1,068.95	883.73
tblVehicleEF	SBUS	40.19	8.86
tblVehicleEF	SBUS	2.73	12.48
tblVehicleEF	SBUS	0.99	1.44
tblVehicleEF	SBUS	14.12	1.62
tblVehicleEF	SBUS	1.7300e-004	2.8970e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	1.6600e-004	2.7720e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003

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tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	4.4490e-003	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.72	2.72
tblVehicleEF	SBUS	2.3340e-003	5.5170e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	0.21	0.06
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	4.6400e-004	8.8000e-005
tblVehicleEF	SBUS	4.4490e-003	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	1.04	3.89
tblVehicleEF	SBUS	2.3340e-003	5.5170e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	0.23	0.07
tblVehicleEF	SBUS	0.84	0.59
tblVehicleEF	SBUS	3.2550e-003	1.4670e-003
tblVehicleEF	SBUS	0.06	0.02
tblVehicleEF	SBUS	5.97	27.75
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	6.14	2.35
tblVehicleEF	SBUS	1,047.32	2,897.95
tblVehicleEF	SBUS	1,068.95	883.72

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tblVehicleEF	SBUS	40.19	10.52
tblVehicleEF	SBUS	2.53	13.69
tblVehicleEF	SBUS	1.04	1.51
tblVehicleEF	SBUS	14.17	1.64
tblVehicleEF	SBUS	2.5000e-004	3.8030e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.8100e-003	9.6070e-003
tblVehicleEF	SBUS	8.3700e-004	1.7300e-004
tblVehicleEF	SBUS	2.3900e-004	3.6390e-003
tblVehicleEF	SBUS	2.7190e-003	2.7660e-003
tblVehicleEF	SBUS	2.6730e-003	9.1780e-003
tblVehicleEF	SBUS	7.7000e-004	1.5900e-004
tblVehicleEF	SBUS	1.2710e-003	2.9600e-003
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.72	2.69
tblVehicleEF	SBUS	5.2800e-004	1.2260e-003
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.02	0.13
tblVehicleEF	SBUS	0.29	0.08
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.01	8.4230e-003
tblVehicleEF	SBUS	5.0700e-004	1.0400e-004
tblVehicleEF	SBUS	1.2710e-003	2.9600e-003
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	1.04	3.86
tblVehicleEF	SBUS	5.2800e-004	1.2260e-003
tblVehicleEF	SBUS	0.05	0.02

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tblVehicleEF	SBUS	0.02	0.13
tblVehicleEF	SBUS	0.32	0.09
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.07	1.6310e-003
tblVehicleEF	UBUS	3.30	27.63
tblVehicleEF	UBUS	8.69	0.15
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.26
tblVehicleEF	UBUS	2.76	0.55
tblVehicleEF	UBUS	12.33	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	3.2160e-003	9.2000e-005
tblVehicleEF	UBUS	0.06	3.2100e-004
tblVehicleEF	UBUS	2.1090e-003	5.1000e-005
tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.02	1.9470e-003
tblVehicleEF	UBUS	0.90	7.5660e-003
tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.5900e-003	1.2000e-005
tblVehicleEF	UBUS	3.2160e-003	9.2000e-005

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tblVehicleEF	UBUS	0.06	3.2100e-004
tblVehicleEF	UBUS	2.1090e-003	5.1000e-005
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.02	1.9470e-003
tblVehicleEF	UBUS	0.99	8.2830e-003
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.06	1.4450e-003
tblVehicleEF	UBUS	3.31	27.63
tblVehicleEF	UBUS	6.96	0.12
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.21
tblVehicleEF	UBUS	2.65	0.55
tblVehicleEF	UBUS	12.22	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	5.9070e-003	1.9800e-004
tblVehicleEF	UBUS	0.07	3.5800e-004
tblVehicleEF	UBUS	4.1490e-003	1.2400e-004
tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.02	1.6760e-003
tblVehicleEF	UBUS	0.79	6.6320e-003

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tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.5600e-003	1.2000e-005
tblVehicleEF	UBUS	5.9070e-003	1.9800e-004
tblVehicleEF	UBUS	0.07	3.5800e-004
tblVehicleEF	UBUS	4.1490e-003	1.2400e-004
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.02	1.6760e-003
tblVehicleEF	UBUS	0.86	7.2610e-003
tblVehicleEF	UBUS	0.55	3.62
tblVehicleEF	UBUS	0.07	1.7860e-003
tblVehicleEF	UBUS	3.29	27.63
tblVehicleEF	UBUS	10.37	0.17
tblVehicleEF	UBUS	1,814.40	1,710.45
tblVehicleEF	UBUS	142.68	1.30
tblVehicleEF	UBUS	2.79	0.55
tblVehicleEF	UBUS	12.42	0.01
tblVehicleEF	UBUS	0.50	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.05	3.9600e-003
tblVehicleEF	UBUS	1.5360e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	7.2700e-003
tblVehicleEF	UBUS	0.04	3.7870e-003
tblVehicleEF	UBUS	1.4130e-003	1.4000e-005
tblVehicleEF	UBUS	1.7240e-003	3.8000e-005
tblVehicleEF	UBUS	0.06	3.4400e-004
tblVehicleEF	UBUS	9.9800e-004	2.0000e-005

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tblVehicleEF	UBUS	0.13	0.05
tblVehicleEF	UBUS	0.03	2.4500e-003
tblVehicleEF	UBUS	0.99	8.3520e-003
tblVehicleEF	UBUS	0.01	5.0760e-003
tblVehicleEF	UBUS	1.6200e-003	1.3000e-005
tblVehicleEF	UBUS	1.7240e-003	3.8000e-005
tblVehicleEF	UBUS	0.06	3.4400e-004
tblVehicleEF	UBUS	9.9800e-004	2.0000e-005
tblVehicleEF	UBUS	0.70	3.69
tblVehicleEF	UBUS	0.03	2.4500e-003
tblVehicleEF	UBUS	1.09	9.1440e-003
tblVehicleTrips	CC_TTP	88.60	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CW_TTP	6.40	0.00
tblVehicleTrips	HO_TL	7.90	0.00
tblVehicleTrips	HO_TL	7.90	0.00
tblVehicleTrips	HO_TL	0.00	6.89
tblVehicleTrips	HO_TTP	37.20	26.00
tblVehicleTrips	HO_TTP	37.20	26.00
tblVehicleTrips	HO_TTP	0.00	5.00
tblVehicleTrips	HS_TL	7.10	0.00
tblVehicleTrips	HS_TL	7.10	0.00
tblVehicleTrips	HS_TL	0.00	11.65
tblVehicleTrips	HS_TTP	18.80	50.00
tblVehicleTrips	HS_TTP	18.80	50.00
tblVehicleTrips	HS_TTP	0.00	88.00
tblVehicleTrips	HW_TL	16.80	0.00

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tblVehicleTrips	HW_TL	16.80	0.00
tblVehicleTrips	HW_TL	0.00	15.00
tblVehicleTrips	HW_TTP	44.00	24.00
tblVehicleTrips	HW_TTP	44.00	24.00
tblVehicleTrips	HW_TTP	0.00	7.00
tblVehicleTrips	ST_TR	7.16	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.42
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	0.00	0.42
tblVehicleTrips	WD_TR	6.59	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	1.21
tblWater	IndoorWaterUseRate	13,389,375.00	8,926,250.00
tblWater	IndoorWaterUseRate	35,965,537.32	23,977,222.02
tblWater	IndoorWaterUseRate	554,321,005.26	369,547,336.84
tblWater	OutdoorWaterUseRate	22,043,393.84	14,695,716.72

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	3.0481	0.0000	0.0000	2.8232	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	1.4264	0.0000	0.0000	1.3123	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	15.0498	84.2498	128.7328	0.5176	40.7762	0.3898	41.1660	10.9265	0.3641	11.2905	0.0000	52,864.54 21	52,864.54 21	1.7237	0.0000	52,907.63 55
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.1881	0.0000	0.0000	0.1880	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0357	0.0000	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	15.0498	84.2498	128.7328	0.5176	40.7762	3.0481	41.1660	10.9265	2.8232	11.2905	0.0000	52,864.54 21	52,864.54 21	1.7237	0.0000	52,907.63 55

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	146.0839	1.6192	140.5378	7.4800e-003		0.7805	0.7805		0.7805	0.7805	0.0000	254.5703	254.5703	0.2463	0.0000	260.7287
Energy	2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885
Mobile	24.1700	50.1983	215.6035	0.7167	95.5577	0.3935	95.9512	25.4966	0.3686	25.8652		80,135.1190	80,135.1190	2.8235		80,205.7056
Total	172.8356	75.0927	374.4319	0.8650	95.5577	2.9577	98.5153	25.4966	2.9327	28.4293	0.0000	108,552.7190	108,552.7190	3.6096	0.5163	108,796.8228

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	115.2060	1.2858	106.5677	4.8400e-003		0.5810	0.5810		0.5810	0.5810	0.0000	177.7380	177.7380	0.1283	0.0000	180.9450
Energy	2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885
Mobile	24.1700	50.1983	215.6035	0.7167	95.5577	0.3935	95.9512	25.4966	0.3686	25.8652		80,135.1190	80,135.1190	2.8235		80,205.7056
Total	141.9577	74.7592	340.4617	0.8624	95.5577	2.7582	98.3159	25.4966	2.7332	28.2299	0.0000	108,475.8867	108,475.8867	3.4915	0.5163	108,717.0391

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	17.87	0.44	9.07	0.31	0.00	6.74	0.20	0.00	6.80	0.70	0.00	0.07	0.07	3.27	0.00	0.07

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/2/2022	5	0	
2	Site Preparation	Site Preparation	10/8/2022	10/7/2022	5	0	
3	Grading	Grading	3/25/2023	3/24/2023	5	0	
4	Building Construction	Building Construction	6/1/2024	6/3/2024	5	1	
5	Paving	Paving	4/19/2036	4/18/2036	5	0	
6	Architectural Coating	Architectural Coating	2/21/2037	2/20/2037	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 43.07

Residential Indoor: 3,436,425; Residential Outdoor: 1,145,475; Non-Residential Indoor: 3,083,825; Non-Residential Outdoor: 1,027,942; Striped Parking Area: 112,577 (Architectural Coating – sqft)

OffRoad Equipment

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

3.4 Grading - 2023

Mitigated Construction Off-Site

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

3.5 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	lb/day										lb/day					
Off-Road	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

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.8585	74.4726	18.6518	0.2001	5.0372	0.1344	5.1716	1.4488	0.1285	1.5773		21,227.5505	21,227.5505	0.7498		21,246.2959
Worker	13.1912	9.7773	110.0811	0.3175	35.7390	0.2554	35.9944	9.4776	0.2356	9.7132		31,636.9916	31,636.9916	0.9739		31,661.3396
Total	15.0498	84.2498	128.7328	0.5176	40.7762	0.3898	41.1660	10.9265	0.3641	11.2905		52,864.5421	52,864.5421	1.7237		52,907.6355

Mitigated Construction On-Site

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

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

3.7 Architectural Coating - 2037

Mitigated Construction Off-Site

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

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	24.1700	50.1983	215.6035	0.7167	95.5577	0.3935	95.9512	25.4966	0.3686	25.8652		80,135.11 90	80,135.11 90	2.8235		80,205.70 56
Unmitigated	24.1700	50.1983	215.6035	0.7167	95.5577	0.3935	95.9512	25.4966	0.3686	25.8652		80,135.11 90	80,135.11 90	2.8235		80,205.70 56

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	11,439.99	3,941.51	3,941.51	36,754,876	36,754,876
Total	11,439.99	3,941.51	3,941.51	36,754,876	36,754,876

4.3 Trip Type Information

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	0.00	0.00	0.00	24.00	50.00	26.00	86	11	3
Apartments Mid Rise	0.00	0.00	0.00	24.00	50.00	26.00	86	11	3
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Research & Development	14.70	6.60	6.60	33.00	48.00	19.00	82	15	3
University/College (4Yr)	14.70	6.60	6.60	0.00	0.00	0.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Apartments Mid Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Apartments Mid Rise	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
General Light Industry	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Health Club	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Parking Lot	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
Research & Development	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515
University/College (4Yr)	0.607849	0.022927	0.205901	0.103922	0.009867	0.003828	0.022612	0.014637	0.001269	0.001293	0.004540	0.000840	0.000515

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885
NaturalGas Unmitigated	2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	9489	0.1023	0.8745	0.3721	5.5800e-003		0.0707	0.0707		0.0707	0.0707		1,116.3534	1,116.3534	0.0214	0.0205	1,122.9873
Apartments Mid Rise	23512.4	0.2536	2.1668	0.9221	0.0138		0.1752	0.1752		0.1752	0.1752		2,766.1658	2,766.1658	0.0530	0.0507	2,782.6037
General Light Industry	4027.83	0.0434	0.3949	0.3317	2.3700e-003		0.0300	0.0300		0.0300	0.0300		473.8621	473.8621	9.0800e-003	8.6900e-003	476.6780
Health Club	42301.1	0.4562	4.1472	3.4836	0.0249		0.3152	0.3152		0.3152	0.3152		4,976.6037	4,976.6037	0.0954	0.0912	5,006.1771
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	78421.9	0.8457	7.6884	6.4583	0.0461		0.5843	0.5843		0.5843	0.5843		9,226.1081	9,226.1081	0.1768	0.1692	9,280.9343
University/College (4Yr)	81633.5	0.8804	8.0033	6.7228	0.0480		0.6083	0.6083		0.6083	0.6083		9,603.9366	9,603.9366	0.1841	0.1761	9,661.0080
Total		2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	9.489	0.1023	0.8745	0.3721	5.5800e-003		0.0707	0.0707		0.0707	0.0707		1,116.3534	1,116.3534	0.0214	0.0205	1,122.9873
Apartments Mid Rise	23.5124	0.2536	2.1668	0.9221	0.0138		0.1752	0.1752		0.1752	0.1752		2,766.1658	2,766.1658	0.0530	0.0507	2,782.6037
General Light Industry	4.02783	0.0434	0.3949	0.3317	2.3700e-003		0.0300	0.0300		0.0300	0.0300		473.8621	473.8621	9.0800e-003	8.6900e-003	476.6780
Health Club	42.3011	0.4562	4.1472	3.4836	0.0249		0.3152	0.3152		0.3152	0.3152		4,976.6037	4,976.6037	0.0954	0.0912	5,006.1771
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	78.4219	0.8457	7.6884	6.4583	0.0461		0.5843	0.5843		0.5843	0.5843		9,226.1081	9,226.1081	0.1768	0.1692	9,280.9343
University/College (4Yr)	81.6335	0.8804	8.0033	6.7228	0.0480		0.6083	0.6083		0.6083	0.6083		9,603.9366	9,603.9366	0.1841	0.1761	9,661.0080
Total		2.5816	23.2751	18.2905	0.1408		1.7837	1.7837		1.7837	1.7837		28,163.0297	28,163.0297	0.5398	0.5163	28,330.3885

6.0 Area Detail

6.1 Mitigation Measures Area

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	115.2060	1.2858	106.5677	4.8400e-003		0.5810	0.5810		0.5810	0.5810	0.0000	177.7380	177.7380	0.1283	0.0000	180.9450
Unmitigated	146.0839	1.6192	140.5378	7.4800e-003		0.7805	0.7805		0.7805	0.7805	0.0000	254.5703	254.5703	0.2463	0.0000	260.7287

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	20.6884					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	121.1214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.2741	1.6192	140.5378	7.4800e-003		0.7805	0.7805		0.7805	0.7805		254.5703	254.5703	0.2463		260.7287
Total	146.0839	1.6192	140.5378	7.4800e-003		0.7805	0.7805		0.7805	0.7805	0.0000	254.5703	254.5703	0.2463	0.0000	260.7287

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	112.1153					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2557	1.2858	106.5677	4.8400e-003		0.5810	0.5810		0.5810	0.5810		177.7380	177.7380	0.1283		180.9450
Total	115.2060	1.2858	106.5677	4.8400e-003		0.5810	0.5810		0.5810	0.5810	0.0000	177.7380	177.7380	0.1283	0.0000	180.9450

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

UCSC - 2020 LRDP - Operational Only - with Mitigated VMT - Santa Cruz County, Summer

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

Appendix D2 - Health Risk Assessment

Health Risk Assessment

for the University of California - Santa Cruz
2021 Long Range Development Plan

Prepared for:
University of California - Santa Cruz
1156 High Street
Santa Cruz, CA 95064
December 2020

Health Risk Assessment for the University of California - Santa Cruz 2021 Long Range Development Plan

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1 INTRODUCTION

The University of California, Santa Cruz (UC Santa Cruz) is preparing the 2021 Long Range Development Plan for UC Santa Cruz (LRDP) to guide future land use development. As part of the LRDP, UC Santa Cruz proposes provide an additional 8,500 student housing beds, up to 550 employee housing units, and approximately 3.1 million square feet of assignable square feet of academic and administrative building space.

This health risk assessment (HRA) evaluates the potential risks associated with construction activities and operation of new campus facilities developed under the LRDP. Air pollutants of concern for this analysis are toxic air contaminants (TACs), primarily diesel particulate matter (diesel PM), from UC Santa Cruz-operated natural gas boilers, generators, and turbines; diesel-powered equipment and vehicles; and gaseous byproducts from laboratory and research fume hoods, and gasoline fuel storage. The HRA also estimates the levels of cancer risk throughout the campus for students and workers as well as for off-site sensitive receptors, such as residential areas, places of worship, and schools. The scope of this HRA is limited to the emissions within campus boundaries and along High Street and Bay Street up to Highway (Hwy) 1.

The HRA was conducted in accordance with Monterey Bay Air Resources District's (MBARD) *Guidelines for Preparing Air Toxics Emission Inventory Plans and Reports*, California Office of Environmental Health and Hazard Assessment (OEHHA) *Air Toxic Hot Spot Program Guidance Manual for Preparation of Health and Risk Assessments*, and guidance from UC Santa Cruz and MBARD staff (OEHHA 2015, MBARD 2019, Kim, pers. comm., 2020a). This report is organized in two primary sections, the first discusses the methodology used in analyzing the health risks and the second presents the results of the HRA.

2 METHODOLOGY

This section is organized by first discussing the overall approach used to conduct the construction and operational HRAs, then addressing the specific inputs and calculation methods used to quantify the risks from the construction and operation of the LRDP.

2.1 HEALTH RISK ASSESSMENT METHODOLOGY AND APPROACH

To determine the public health impacts of TACs emitted during the construction and operation of the LRDP, the emissions sources of concern were first inventoried. The various emissions source parameters (e.g., stack flow rates, exhaust temperatures, and locations) were used to model the dispersion of pollutants into the atmosphere based on local meteorological conditions.

Air dispersion modeling was conducted using California Air Resources Board (CARB)-approved American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee modeling system (AERMOD) Version 9.9.0. AERMOD was used to obtain ground level concentrations (GLCs) over a receptor grid surrounding the campus. The resulting GLCs of each pollutant were input into the Hotspots Analysis and Reporting Program Version 19121 (HARP2) software, to match the GLCs with known pollutant risk values to determine the spatial distribution of cancer and non-cancer health risks at each receptor. Results are presented graphically on maps including risk isopleths and aerial imagery.

The specific TACs analyzed in this HRA are based on the list provided in the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (Consolidated Table) (CARB 2020a). Any substances in this table that did not have risk values were excluded from the analysis. The Consolidated Table includes diesel PM in the list of TACs. According to Appendix D of OEHHA's 2003 HRA guidance, referred to in the Consolidated Table, PM₁₀ is the basis for

OEHHA's potential risk calculations for diesel PM (OEHHA 2003, CARB 2020a). Thus, estimated emissions of PM₁₀ from diesel combustion sources were used as a proxy for diesel PM in the risk assessment.

Details pertaining to each component of the HRA (e.g., source inventory, air dispersion modeling, emission rate calculations, and risk calculations) are discussed in further detail below.

2.2 SOURCE INVENTORY

For this HRA, construction-related emissions sources include on-site diesel equipment, including diesel-powered woodchippers, performing various activities and off-site diesel hauling and vendor trucks that travel to and from the project site.

Emissions sources during operation include new and increased existing operations of on-campus natural gas boilers, turbines, and generators; laboratory fume hoods; gasoline storage tanks, and diesel mobile sources (e.g., buses, delivery trucks). The selection of sources modeled for operational health risks was based on sources evaluated in MBARD's Prioritization Score Assessment of UC Santa Cruz for Assembly Bill [AB] 2588 Hot Spot's program and in the previous 2005 LRDP HRA (Kim, pers. comm., 2020b, UC Santa Cruz 2005). MBARD's assessment evaluated operation of natural gas boilers, natural gas turbines, gasoline storage tank, a portable gasoline sewer pump, and portable diesel-powered woodchippers. The 2005 LRDP HRA also included emissions from laboratory fume hoods. Except for the excluded sources noted below, these existing sources were used as a basis for estimating new or increased existing emissions sources that would occur under LRDP operations. Diesel-powered woodchippers were assumed to be associated with site preparation activities under construction.

Under the University of California Office of the President's Sustainability Practices Policy, new buildings are prohibited from combusting natural gas or other fossil fuels onsite. However, the UC Sustainable Practices Policy states "Projects unable to meet this requirement shall document the rationale for this decision..." (UCOP 2020:9). Due to this flexibility in the policy, it is conservatively assumed that the additional buildings would use natural gas.

EXCLUDED SOURCES

The following sources are excluded from this analysis:

- ▶ Existing (non-modified) on-site sources;
- ▶ Off-site generated traffic-related TACs;
- ▶ Permitted stationary sources outside of the LRDP boundary;
- ▶ Unpermitted natural gas furnaces and water heaters;
- ▶ Portable gasoline sewer pumps; and
- ▶ Paint booths.

Existing sources are not evaluated due to the purpose of this HRA to inform impacts related to new sources generated under the LRDP in relation to MBARD health risk thresholds. Consistent with CARB guidance (2005) for siting sensitive receptors near TAC sources, traffic-related TACs are excluded because the project site is located more than 500 feet from the nearest freeway (CARB 2005). Hwy 1 is located approximately one mile the southern border of the plan area. No major permitted stationary sources, such as power plants or factories, are located within 1,000 feet of the project boundary.

Natural gas furnaces and water heaters are small stationary sources that emit small amounts of TACs that are not required to have permits and are excluded from MBARD's analysis of health risks generated by UC Santa Cruz. Additionally, although the operation of a portable gasoline sewer pump is included in MBARD's AB 2588 evaluation,

this equipment can operate at any sewer access on campus, as needed, and is estimated to use no more than nine gallons of gasoline per year. Due to the relatively small usage rate compared to other permitted sources and the fact that this source would not operate at a single location for extended periods of time, emissions from any additional usage of this equipment under the LRDP are excluded from this analysis.

Although the campus currently operates two permitted paint booths, which were both modeled in the 2005 LRDP HRA, UC Santa Cruz noted that these facilities are used sparingly and does not anticipate the campus's growth to result in any new paint booths to be operated (Carpenter, pers. comm., 2020a).

EMISSION RATES

The emission rates from each emissions source, measured as mass over time, were used to calculate the TAC GLCs at receptor locations, measured in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Average annual and hourly emission rates were calculated based on 1) the operation schedule of each emissions source and 2) the emission factors of each source based on the type of equipment and amount of fuel combusted or evaporation factors associated with the use and storage of laboratory chemicals. The methods used to estimate the individual emission rates vary by the type of TAC source (e.g., construction equipment, stationary sources, and laboratories), and are discussed separately in further detail below for the construction and operational analyses.

2.3 AIR DISPERSION MODELING

MODELING APPROACH

Dispersion modeling was conducted using AERMOD Version 9.9.0 for two scenarios: construction and proposed operation of the LRDP. Emissions source data, receptor locations and parameters, on-site buildings, terrain data, and meteorological data were the primary inputs into AERMOD to determine how emissions would be dispersed and the resulting GLCs. Most of these inputs varied depending on the scenario being modeled. However, all modeled scenarios used the same receptor locations, terrain data, and meteorological data.

Terrain, meteorology, and buildings close to the emissions sources greatly influence the dispersion of pollutants. The presence of on-site buildings was modeled to account for the effect of the buildings by emissions sources to divert the dispersion of pollutants, also referred to as building downwash. Existing building footprints and heights were provided by UC Santa Cruz. Local terrain data were obtained from CARB's digital elevation files for the Felton and Santa Cruz areas (CARB 2020b). Meteorology data were obtained from MBARD. It was assumed that the surrounding area would have a general dispersion coefficient representative of urban areas, due to the location of the campus in a wooded area, which has significant surface terrain. Modeling was conducted using the Universal Transverse Mercator coordinate system for zone 11 north and the geographic datum from the World Geodetic System (WGS) in 1984. Relative concentrations were averaged over a 4-year period, based on the meteorological data available (2014-2018).

Air dispersion modeling was conducted using a unit emission rate of 1.0 gram per second (g/s) for all modeled point and area sources. Area and volume sources were modeled as having an emission rate of 1.0 g/s for each building or construction area that was represented. This resulted in GLC values per unit emission rate (χ/Q) ($[\mu\text{g}/\text{m}^3]/[\text{g}/\text{s}]$), that were then multiplied in HARP2 by emission rates calculated for each source. This approach enabled the AERMOD output files to be assigned appropriate emission rates and cancer and non-cancer risk values to estimate concentrations and health risk levels from each individual source at each receptor location. Apart from these inputs and assumptions, AERMOD's default dispersion options were selected.

METEOROLOGICAL DATA

The Santa Cruz, Watsonville Airport meteorological station was identified by MBARD staff to have the most representative data for the project site due to its proximity to the campus and similarity in geography and

meteorological conditions. Watsonville Airport Station is approximately 16 miles west of the campus. (Kim, pers. comm., 2020c).

Ascent obtained preprocessed 4-year meteorological data (2014-2018) from MBARD for the Watsonville Airport station for use in the air dispersion modeling. A wind rose displaying the wind speed and wind direction is shown in Figure 1. The wind primarily blows from the southwest and northwest directions. Dispersion modeling applied the time-averaged, simplified representation of turbulent, atmospheric transport to approximate how pollutants are carried, mixed, dispersed, and diluted by the local winds based on data from the Watsonville Airport station.

RECEPTOR GRID

MBARD recommends using modeling guidance provided by South Coast Air Quality Management District (SCAQMD) for developing the receptor grid. In accordance with SCAQMD guidance for conducting HRAs and air dispersion modeling, a receptor grid with a 100-meter (m) grid spacing was used based on the overall size of the project area (>2 kilometers [km]). Due to the orientation of the campus with the majority of buildings and source concentrated over 1 km north from the nearest off-site receptors (e.g., residential land uses to the south of the campus), the receptor grid covers the entire campus area and 400 m along either side of major routes approaching the campus (High Street and Bay Street). The grid also excludes areas where no receptors are located (e.g., meadows, wooded areas). Per SCAQMD guidance, each receptor was assumed to have heights at elevation to represent risks at the ground level. Along this receptor grid, several additional discrete receptors were identified within 1 km of the campus based on their sensitive land use type (i.e., school, daycare, place of worship). The locations and identity of these receptors are shown in Table 1.

Table 1 Additional Sensitive Receptors

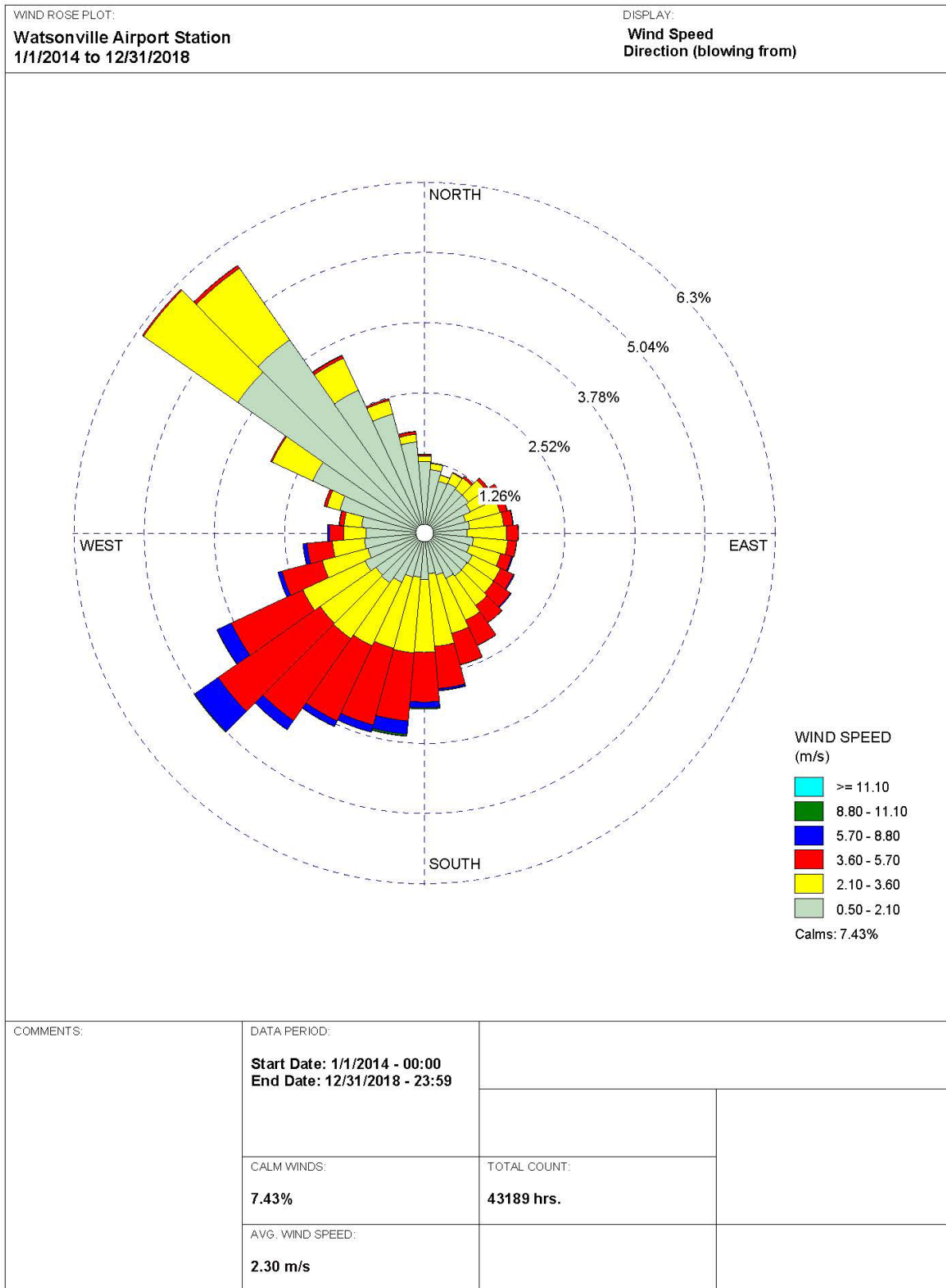
Receptor	Receptor Type	Easting (m) ¹	Northing (m) ¹
Westlake School	Elementary School	584593.9	4092970.3
First Congregational Church	Place of Worship	584793.9	4092970.3
High Street Community Church	Place of Worship	584893.9	4092970.3
Messiah Lutheran Church	Place of Worship	585093.9	4092870.3
UC Santa Cruz Early Education Services	Daycare	582893.9	4094370.3
Student Health Services	Medical Clinic	583893.9	4095270.3

Notes: UC Santa Cruz = University of California – Santa Cruz; K-12 = kindergarten through 12th grade

¹. Based on Universal Transverse Mercator coordinates.

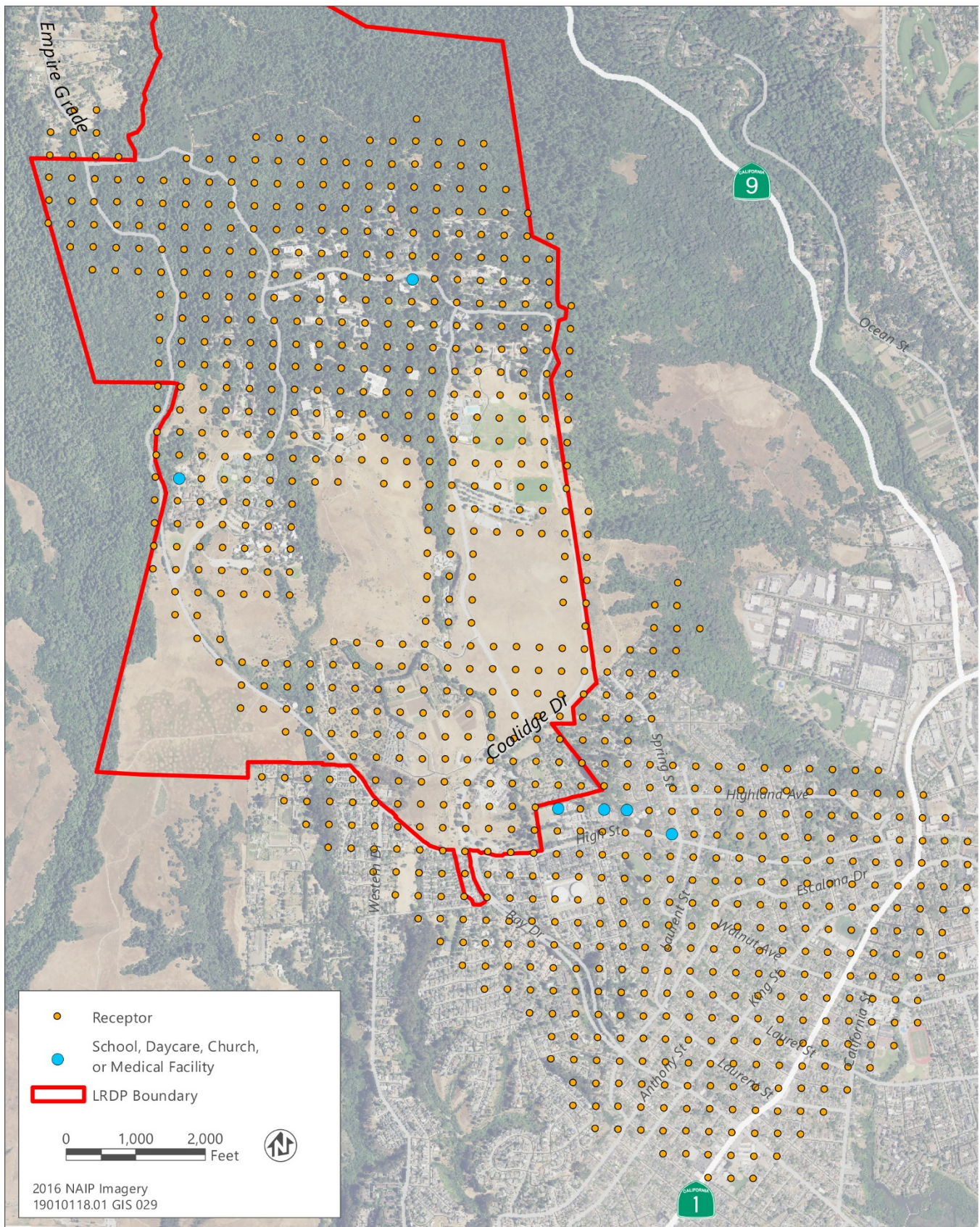
Source: Data provided by Ascent Environmental, Inc., in 2020

The receptor grid and identified discrete receptors used for the construction and operational HRA are shown in Figure 2.



Source: Figure created by Ascent Environmental in 2020 using WRPLOT View Version 9.9.0
 Data provided by the Monterey Bay Air Resources District in 2020

Figure 1 **Wind Rose for Watsonville Airport Station (2014-2018)**



Note: The receptor grid generally excludes areas where no receptors would be located under the LRDP (e.g., meadows, wooded areas)
Source: Adapted by Ascent in 2020

Figure 2 Receptor Grid and Sensitive Receptors

2.4 CANCER AND NON-CANCER RISK CALCULATION

Cancer and non-cancer risks were modeled in HARP2 using relative GLC outputs from AERMOD and calculated emission rates from each source. HARP2 was used to calculate absolute GLCs from each source at each receptor and determine the cancer and non-cancer risks based on the pollutant. Receptor exposure rates and parameters varied depending on the scenario being analyzed. For example, operational scenarios assumed a longer exposure duration in comparison with the construction scenario that assumed the exposure duration would last as long as the construction activity would occur (i.e., 18 years).

CARB developed HARP2 as a tool to implement risk assessments and incorporates requirements from the OEHHA Air Toxics Hot Spot Program Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015). HARP2 uses the most current OEHHA potency factors for cancer and reference exposure levels for acute and chronic non-cancer risks.

The HRA follows the OEHHA Tier 1 level of evaluation to calculate the health risk impacts at all receptors, including the residential and childcare facilities. Risk modeling was performed in HARP2 to estimate cancer and non-cancer health risks for residential and worker receptors types (sensitive receptors are analyzed as residential receptors types). The assessment of cancer risk and chronic non-cancer health indices use the long-term period (annual) average emissions, while the assessment of acute non-cancer health effects use the maximum short-term 1-hour emissions.

Based on OEHHA guidance, cancer risk is calculated by multiplying the daily inhalation or oral dose (i.e., to characterize non-inhalation risk) by a cancer potency factor, the age sensitivity factor, the frequency of time spent at home (for residents), and the exposure duration divided by averaging time, to yield the excess cancer risk. Then, excess cancer risk is calculated separately for each age grouping and summed to yield cancer risk at the receptor location. The residential and worker daily breathing rates (DBR) were based on the OEHHA Derived Method. These assumptions were used to calculate the cancer risk in HARP2 based on the mandatory minimum pathways included in the model (i.e., inhalation, soil, dermal, and mother's milk) for residential cancer risks and worker pathways (i.e., inhalation, soil, and dermal) for worker cancer risks.

For receptors, residential cancer risks were calculated based on the HARP default residential exposure period of 30 years starting from the 3rd trimester. Although most undergraduate residents on campus may only stay for approximately four years, this exposure period would also capture habitation characteristics of on-campus faculty housing and off-campus residential receptors. These conservative parameters were also used to model risks at receptors such as schools, churches, and daycare centers. For worker receptors, cancer risks were based on the HARP default exposure duration of 25 years.

Non-cancer risks are measured in terms of health hazard indices (HHI). Chronic and acute HHIs are the sum of the individual substance chronic and acute hazard indices for all TACs affecting the same target organ system, respectively. Individual substance indices are calculated as the ratio of the calculated ground-level concentration to the reference exposure levels (REL), which are regularly published by OEHHA (OEHHA 2015:6-7). If the reported concentration of a given chemical is less than its REL, then the hazard index would be less than 1.0. Acute risks were calculated from a 1-hour exposure using HARP2. Chronic risks were calculated for both long term exposure (30 years for resident and 25 years for worker receptors) in HARP2. Note that 8-hour chronic risks were not analyzed because all chronic risks HHIs were found to be less than significant and chronic risks are lower under an 8-hour exposure duration than a long-term duration (See Section 3).

The point of maximum impact (PMI), the maximally exposed individual resident (MEIR), and the maximally exposed individual worker (MEIW) were calculated for cancer risk and non-cancer health indices. The PMI is a location within the modeling grid where the model calculates the highest (worst-case) health risk. The PMI may or may not be in a habitable location.

2.5 HEALTH RISK CEQA THRESHOLDS OF SIGNIFICANCE

According to MBARD, a project's impact on health risks would be considered significant under CEQA if the project-related increase in risks would exceed the following thresholds shown in Table 2. Results of this HRA are compared to the MBARD-adopted thresholds of significance.

Table 2 Significant Health Risk Levels

	Significant Risk Threshold
Maximum Incremental Cancer Risk ¹	10.0 in a million
Total Chronic Non-Cancer Health Hazard Index ²	1.0
Total Acute Non-Cancer Health Hazard Index ³	1.0

Notes:

1. Maximum Incremental Cancer Risk is the maximum lifetime excess cancer risk estimate (per million) at residential or worker receptor (whichever is greater). The maximum estimated risk generally is possible at only one location. All other locations show lower risks. Actual cancer risk would likely be less.
2. Total Chronic Health Hazard Index (THI) is the sum of the ratios of the average annual exposure level of each compound to the compound's Reference Exposure Level (REL). Actual chronic THI would likely be less.
3. Total Acute Health Hazard Index (THI) is the sum of the ratios of the maximum one-hour exposure level of each compound to the compound's REL. Actual acute THI would likely be less.

Source: MBARD 2008

2.6 CONSTRUCTION HEALTH RISK ASSESSMENT METHODS

This section provides additional details specific to the construction HRA, including air dispersion model setup, emission rate calculations, and risk calculations.

The construction HRA focuses primarily on exposure to sensitive receptors from emissions of diesel PM. Risks from diesel PM far outweigh those associated with other pollutants generated during construction activities and; therefore, is the TAC of primary concern. Diesel PM from construction activities results from the combustion of diesel fuel in on-site off-road construction equipment and from hauling and vendor trucks traveling between off-site material sources and the project area. Diesel PM emissions were based on estimated construction mass emissions and risks associated with the diesel PM emissions were based on air dispersion modeling associated with the areas in which construction activity would occur. Methods for these procedures are described in further detail herein.

2.6.1 Source Inventory and Air Dispersion Modeling Parameters

Diesel PM generated from diesel-powered heavy-duty construction equipment and on-road diesel trucks is the main source of TACs from construction. Annual PM₁₀ emissions, used by OEHHA as the basis for diesel PM risk estimates, were estimated based on results from the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 computer program and the Road Construction Emissions Model (RCEM) (See Appendix C1 of the DEIR for the air quality modeling outputs). Construction emissions results from both models were based on project-specific information (e.g., average annual building square footage) where available, reasonable assumptions based on typical activities, and model default values that are based on the project's location, land use types, and construction duration. Modeled construction activities include demolition of existing structures, site preparation/grading activities, and building construction associated with the potential new facilities to be developed under the LRDP.

Use of on-site heavy-duty diesel equipment was modeled in AERMOD using adjacent volume sources. Due to the large size of the modeling area and to facilitate modeling run time, volume sources with 100-foot sides were drawn within designated development areas where construction could occur (See Figure 2-4 of Section 2.0 *Project*

Description in the DEIR). These volume sources and development areas are shown in Figure 3. Plume heights were set at 12 feet (3 meters) to represent exhaust pipes of construction equipment and emission rates were entered as 1 g/s for each set of volume sources. AERMOD automatically calculated the plume height based on the release height and volume side length.

To model emissions from truck hauling activity, three sets of volume line sources were drawn. The first set was drawn along major roadways within the main campus boundary and is identical to the set used in UC Santa Cruz's 2005 LRDP Health Risk Assessment (2005 LRDP HRA) (UC Santa Cruz 2005). The second and third set were drawn along High Street and Bay Drive, respectively, between the campus's southern boundary and the on-ramp to Hwy 1. To facilitate modeling run times, volume source lengths of 43 m were assumed for each volume source along the modeled haul routes. This allowed fewer sources to be modeled while still covering the area in which haul truck travel would occur. AERMOD automatically calculated the plume height based on the release height and volume side length. Both on-site equipment emissions and off-site truck hauling emissions sources are shown in Figure 3.

2.6.2 Emission Rates

Emissions rates for construction activity were based on on-site equipment operations and off-site hauling activity near the plan area. Total construction PM₁₀ exhaust emissions, the proxy for diesel PM, for each year of the LRDP buildout period are shown in Table 3.3-6 in Section 3.3 *Air Quality* of the DEIR. Hourly emissions were based on a 9-hour period during which construction is anticipated to occur (8:00 AM to 5:00 PM) and 5-day work weeks, consistent with the operation assumptions in CalEEMod and RCEM. This is shorter than the 14-hour allowed construction work period allowed under Mitigation Measure 3.12-1 in Section 3.12, *Noise*, of the DEIR. As such, the 9-hour workday assumption results in a more conservative maximum hourly emission rate estimate as total emissions are divided across the estimated work hours.

ON-SITE HEAVY-DUTY CONSTRUCTION EQUIPMENT

Based on construction emissions modeling, on-site diesel construction equipment (under the unmitigated scenario) would emit an average of 9.6 pounds (lb) per day, or 1,187 lb per year, of PM₁₀ from diesel exhaust during the 18-year buildout period. Annual emissions are based on the annual results from modeling and construction scheduling inputs. Based on a 9-hour workday, on-site equipment would emit an estimated maximum of 1.1 lb of PM₁₀ per hour. These emissions are assumed to represent average annual construction activity across all LRDP development areas.

OFF-SITE HAULING AND VENDOR DIESEL TRUCK TRIPS

In addition to the use of on-site diesel construction equipment, diesel trucks used for material hauling and vendor deliveries were also evaluated in the construction HRA. Similar to the methods described above for on-site equipment, CalEEMod and RCEM modeling also included the anticipated number of truck trips and associated diesel PM emissions.

Access to campus construction sites would occur throughout major roadways on campus and along High Street and Bay Drive, which connect the campus to Hwy 1. Thus, for purposes of calculating health risks associated with receptors located near these routes, the estimated total mass diesel PM emissions associated with truck trips were adjusted based on the length of the access roads modeled in AERMOD, as compared to the assumed trip lengths modeled in CalEEMod and RCEM. Specifically, 74 percent of total hauling and vendor diesel PM emissions modeled in CalEEMod and RCEM were used in the risk calculations. Annual emissions were converted to lb/hour for input into HARP2 to estimate cancer risk based on a 9-hour workday and 5-day workweek. The adjusted emissions rate for off-site hauling and vendor trips was estimated at 7.8 lb of PM₁₀ per year. Table 3 shows the adjustments made to estimate the hauling/vendor trip diesel PM emissions for risk calculations.

Table 3 Diesel PM Emissions Adjustments based on Trip Lengths

Average CalEEMod and RCEM Default Trip Lengths (mi) ¹	19
Modeled Haul/Vendor Combined Route Lengths in AERMOD (mi)	13
Percent Difference	74%
Annual Haul and Vendor Truck PM ₁₀ Emissions from CalEEMod and RCEM (lb/year)	10.5
Adjusted Annual Haul and Vendor Truck PM ₁₀ Emissions for health risk modeling (lb/year)	7.8

Notes: lb=pounds, CalEEMod = California Emissions Estimator Model; RCEM = Roadway Construction Emissions Model; AERMOD =

¹. Weighted by modeled truck vehicle miles travelled between haul and vendor truck trips

Source: Data adapted by Ascent Environmental, Inc., in 2020

2.6.3 Cancer and Non-Cancer Risk Assumptions

Diesel PM does not have an acute reference exposure level; therefore, cancer and chronic risk were the only scenarios modeled. Table 4 summarizes the parameters and assumptions used for construction-related risks, accounting for the 18-year buildout period of the LRDP.

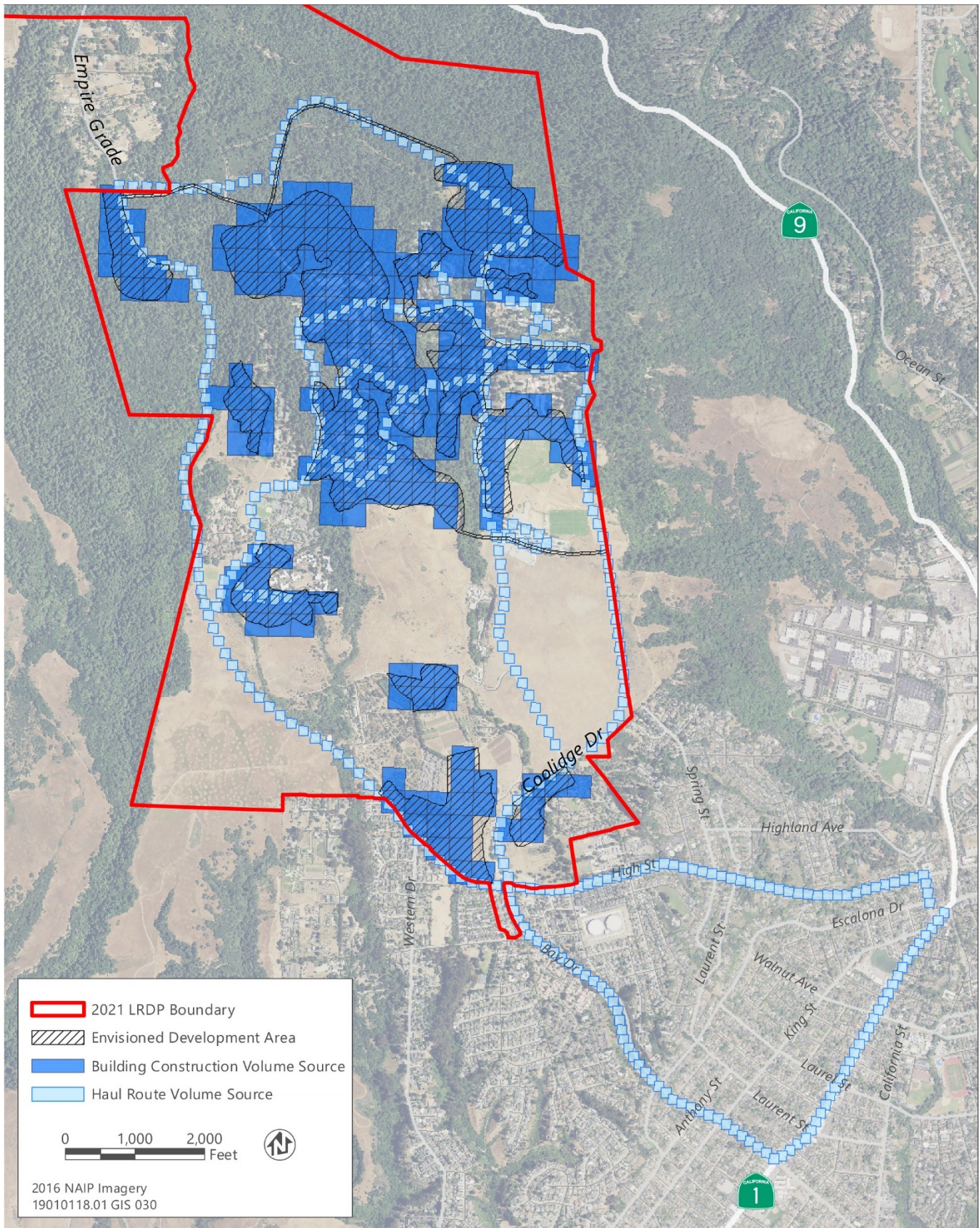
Table 4 Risk Parameters for Cancer and Non-Cancer Risk for Construction¹

Risk Parameters	Residential and Sensitive Receptors		Worker Receptors	
	Cancer Risk	Chronic Risk (Non-cancer)	Cancer Risk	Chronic Risk (Non-cancer)
Analysis Type	Cancer Risk	Chronic Risk (Non-cancer)	Cancer Risk	Chronic Risk (Non-cancer)
Receptor Type	Residential	Residential	Worker	Worker
Exposure Duration	18 years	N/A	18 years	N/A
Starting Age	3 rd Trimester	N/A	16	N/A
Intake Rate Percentile	OEHHA Derived Method	OEHHA Derived Method	OEHHA Derived Method	OEHHA Derived Method
Risk Pathways Evaluated	Mandatory Minimum Pathways	Mandatory Minimum Pathways	Worker Pathways	Worker Pathways
Deposition Rate	0.05 m/s	0.05 m/s	0.05 m/s	0.05 m/s
8-Hour Breathing Rates	Off	Off	Yes, Moderate	Yes, Moderate
FAH	Off	Off	Off	Off
Climate	Warm	Warm	Warm	Warm

Notes: N/A = not applicable; OEHHA = Office of Environmental Health Hazard Assessment; RMP = Risk Management Policy; m/s = meters per second; FAH = fraction of time at home; Note: no acute parameters are shown because Diesel PM does not have acute risk factors.

¹. Analysis was prepared consistent with OEHHA Guidance (OEHHA 2015).

Source: Prepared by Ascent Environmental, Inc., in 2020



Source: AERMOD Version 9.9.0 using data provided by Ascent in 2020

Figure 3 Modeled Construction Emission Sources (On-Site Construction Activity and Off-Site Haul Routes)

2.7 OPERATIONAL HEALTH RISK ASSESSMENT METHODS

This HRA evaluates health risks associated with new and modified/expanded existing sources that would occur as part of LRDP buildout. The LRDP does not identify specific sources that would be operated under the plan. As such, potential new and modified existing sources were generated, located, modeled based on the existing types of TAC sources; the anticipated growth in energy use, building area, and vehicle miles travelled under the LRDP; and the location of LRDP envisioned development areas. Modeled sources include emissions from new boilers, generators, and laboratory buildings with fume hoods and emissions from anticipated increased usage of the campus's existing natural gas turbines, gasoline storage tank, and roadways. The following discussion explains the scaling factors and air dispersion modeling parameters used to model the new and modified existing sources. The results of the air dispersion modeling were used to calculate health risks due to the LRDP buildout. Methods specific to operational risk sources are described below.

2.7.1 Source Inventory and Air Dispersion Modeling Parameters

The LRDP would add new TAC sources and increase emissions at existing TAC sources as part of the planned envisioned development of new academic, support, and residential facilities. Modeled operational sources consist of new natural gas boilers, new natural gas emergency and standby generators, new laboratory buildings with fume hoods, increased emissions at the existing natural gas cogeneration turbines, increased emissions from the existing gasoline storage tank, and increased mobile emissions on existing nearby roadways. Except for four proposed standby generators, the exact number, size, and placement of new TAC sources that would operate under the LRDP are not currently known at this time. For modeling purposes, the number and placement of new sources, other than the standby generators, were based on the number and placement of similar existing sources and the anticipated growth in energy and building square footage.

Table 5 summarizes the approach used to determine the number of new TAC sources and whether existing sources would have increased emissions. Table 6 shows the energy growth anticipated under the LRDP, based on results from Section 3.6, Energy, of the DEIR and existing energy use reports. The rationale behind Tables 5 along with an explanation of the placement of new sources and assumed modeling parameters are discussed by the source type below. Emission rate assumptions are discussed in Section 2.7.1. Based on these scaling methods and anticipated locations, the modeled sources are mapped in Figure 4.

With respect to the modeling parameters needed for air dispersion modeling in AERMOD, data from existing sources were used to the extent feasible. Boilers, generators, and turbines were modeled as point sources; laboratory buildings with fume hoods and the existing gasoline storage tank as area sources; and mobile sources as volume sources. For point sources, the stack parameters required include stack height, stack diameter, exit temperature, and exit velocity or flow rate. These values were taken from model specification documentation, where available; and reasonable assumptions were made for the other missing parameters. Data from the 2005 LRDP HRA were used when no reasonable assumptions could be made and where existing data was unavailable. For area sources, areas were modeled based on building footprints from preliminary building drawings and from aerial imagery of the existing gasoline storage tank (UC Santa Cruz 2020a). The assumed modeling parameters are summarized in Tables 7 and 8 for point and area sources, respectively. The same modeling parameters used for construction diesel truck trips were also used for operational mobile sources, which were modeled as volume sources.

Table 5 Develop New and Modified Existing Source Development

Source Type	Equipment Number Factor	Percent growth from Existing Conditions	Existing Number of Sources ^c	Estimated Number of New Sources under LRDP
Boilers	Growth in Natural Use	18% ^a	17	3
Turbine	Growth in Total Energy Use	30% ^a	1	No new sources. Assume existing turbines will generate 30% more emissions.
Emergency Generators	Growth in Electricity Use	67% ^a	41	27 ^d
Standby Generators	N/A	N/A	N/A	4
Laboratory Building with Fume Hoods	Growth in Instruction and Research Building Area	31% ^b	11	3
Gasoline Storage Tank	Growth in Total Building Area	50% ^b	1	No new sources. Assume existing source will generate 50% more emissions
Mobile Sources	N/A	N/A	See Figure 4	No new roadways. Increased mobile emissions would occur from existing roadways.

Notes: VMT = vehicle miles travelled, N/A = not applicable

^a Based on energy growth estimated shown in Table 6.

^b Based on growth in building space proposed under the LRDP in Table 2-2 of Section 2.0, *Project Description*, of the DEIR.

^c For boilers, turbines, and generators, this number refers to permitted sources recognized by MBARD.

^d Up to approximately 27 new permitted generators could be installed, assuming a direct scaling of the total number of existing generators by the anticipated growth in electricity demand.

Source: Welch, pers. comm., 2020, Carpenter, pers. comm., 2020b

Table 6 UC Santa Cruz Existing and New Energy Use under the LRDP

Source Type	Electricity Use (MWh) ^a	Natural Gas Use (therms)	Total Energy Use (MMBTU)
Existing ^b	48,480	4,954,650	660,884
Net new under LRDP ^c	32,283	873,967	197,529
Existing + LRDP	80,763	5,828,617	858,413
Percent Growth from Existing	67%	18%	30%

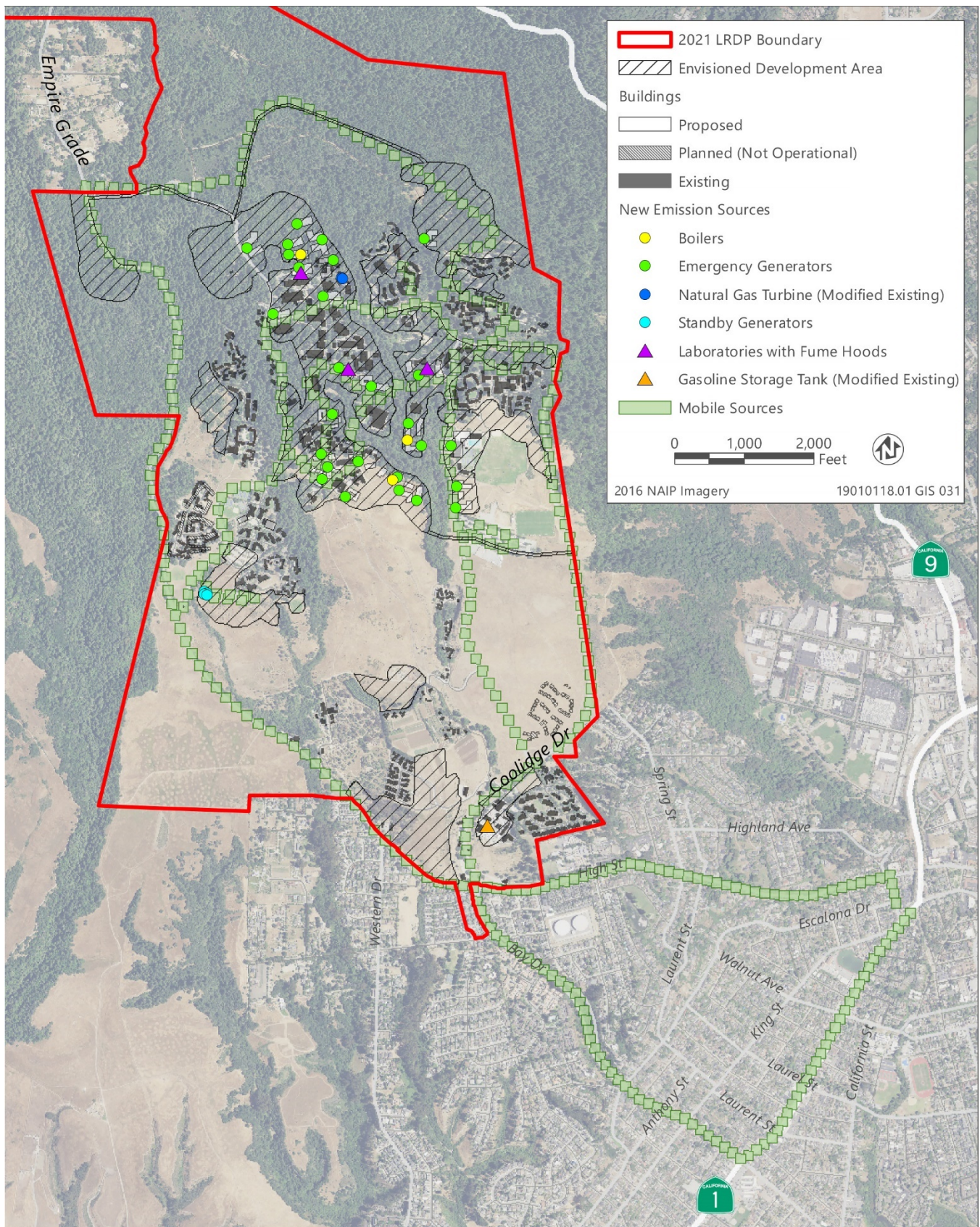
Notes: VMT = vehicle miles travelled, MWh = megawatt-hours, MMBTU = million British Thermal Units

^a Includes use from both on-site solar- and grid-based electricity.

^b Based on 2018 energy reports from UC Santa Cruz.

^c Based on results from Table 3.6-2 in Section 3.6, *Energy*, of the DEIR

Source: UC Santa Cruz 2020b



Note: Triangles represent area sources. Dots represent point sources. Mobile sources are modeled as volume sources
Source: Adapted by Ascent in 2020

Figure 4 Proposed Building Scenario and Emission Sources**Table 7 Air Dispersion Modeling Parameters for Point Sources**

Source Type	Release Height (m)	Stack Diameter (m)	Stack Exit Velocity (m/s)	Stack Temperature (K)	UTM X	UTM Y
Boiler 1	7.62 ^a	0.31	9	408	583826.68	4094541.43
Boiler 2	7.62 ^a	0.31	9	408	583399.31	4095519.58
Boiler 3	7.62 ^a	0.31	9	408	583884.39	4094719.01
Natural Gas Turbine 1	7.62 ^a	1.22 ^a	0.46 ^a	650 ^a	583571.87	4095413.56
Natural Gas Turbine 2	7.62 ^a	1.22 ^a	0.46 ^a	650 ^a	583573.81	4095410.46
Emergency Generator 1	1.57	0.08	158.9	866	583924.77	4094448.76
Emergency Generator 2	1.57	0.08	158.9	866	583612.42	4094457.53
Emergency Generator 3	1.57	0.08	158.9	866	583507.29	4094530.56
Emergency Generator 4	1.57	0.08	158.9	866	584099.41	4094514.17
Emergency Generator 5	1.57	0.08	158.9	866	583500.93	4094639.05
Emergency Generator 6	1.57	0.08	158.9	866	583548.18	4094815.99
Emergency Generator 7	1.57	0.08	158.9	866	583713.03	4094941.27
Emergency Generator 8	1.57	0.08	158.9	866	583939.42	4094688.51
Emergency Generator 9	1.57	0.08	158.9	866	583918.54	4094997.32
Emergency Generator 10	1.57	0.08	158.9	866	583274.54	4095245.68
Emergency Generator 11	1.57	0.08	158.9	866	583385.11	4095455.04
Emergency Generator 12	1.57	0.08	158.9	866	583929.55	4095594.51
Emergency Generator 13	1.57	0.08	158.9	866	583480.06	4095576.34
Emergency Generator 14	1.57	0.08	158.9	866	583155.02	4095532.05
Emergency Generator 15	1.57	0.08	158.9	866	583839.79	4094548.41
Emergency Generator 16	1.57	0.08	158.9	866	584071.54	4094692.37
Emergency Generator 17	1.57	0.08	158.9	866	583368.25	4095645.10
Emergency Generator 18	1.57	0.08	158.9	866	583568.75	4095019.85
Emergency Generator 19	1.57	0.08	158.9	866	584099.45	4094419.46
Emergency Generator 20	1.57	0.08	158.9	866	583532.45	4095490.15
Emergency Generator 21	1.57	0.08	158.9	866	583665.05	4094611.44
Emergency Generator 22	1.57	0.08	158.9	866	583533.15	4094585.60
Emergency Generator 23	1.57	0.08	158.9	866	583491.61	4095329.67
Emergency Generator 24	1.57	0.08	158.9	866	583881.33	4094785.17
Emergency Generator 25	1.57	0.08	158.9	866	583338.44	4095509.28
Emergency Generator 26	1.57	0.08	158.9	866	583331.52	4095553.27
Emergency Generator 27	1.57	0.08	158.9	866	583849.75	4094488.65
Standby Generator 1	4	0.25	0.247	639	583006.63	4094027.05
Standby Generator 2	4	0.25	0.247	639	583019.33	4094018.86
Standby Generator 3	4	0.25	0.247	639	583007.97	4094014.69
Standby Generator 4	4	0.25	0.247	639	583020.50	4094008.34

Notes: VMT = vehicle miles travelled. UTM = Universal Transverse Mercator. Parameters are shown in metric units per default units used in AERMOD.

^a Based on 2005 LRDP HRA parameters

Source: UC Santa Cruz 2005, Data compiled by Ascent Environmental in 2020

Table 8 Air Dispersion Modeling Parameters for Area Sources

Source Type	Release Height (m)	Area Source Polygon Vectors (UTM X,Y) (m)				
		1	2	3	4	5
Laboratory 1	7.62	583349.96, 4095418.81	583440.87, 4095429.40	583433.18, 4095477.15	583389.20, 4095471.92	583390.44, 4095452.81
Laboratory 2	7.62	583624.81, 4094971.92	583638.91, 4094993.07	583609.47, 4095010.49	583609.88, 4095030.81	583579.61, 4095030.40
Laboratory 3	7.62	583907.57, 4095001.02	583958.56, 4095007.28	583955.90, 4095026.83	NA	NA
Gasoline Storage Tank	1	584264.03, 4093020.69	584270.60, 4093015.53	584278.58, 4093026.48	NA	NA

Notes: m = meter, UTM = Universal Transverse Mercator, NA = not applicable

Source: Data compiled by Ascent Environmental in 2020

BOILERS

Natural gas boilers provide space and water heating to buildings. To obtain the number of new natural gas boilers, the existing number of natural gas boilers was scaled up by the percent growth anticipated in natural gas demand on campus. As shown in Table 5, the anticipated growth in overall natural gas demand is assumed to result in the addition of three new boilers. The location of the new boilers was scattered across new envisioned development areas in areas similar to where existing boilers are located (e.g., dormitories, research facilities) and generally centralized around clusters of buildings, based on preliminary new building drawings. The modeled stack parameters associated with the boilers were based a combination of available data for existing boilers and parameters typical for boilers of similar size and application as existing boilers.

With respect to modeling parameters for the boilers, vent diameters of existing boilers were determined to be based on average vent diameters of existing permitted boilers, weighted by annual energy use. Stack heights were assumed to be 25 feet, based on 2005 LRDP boiler assumptions. Exhaust flow rates were based on typical values for one step and two step boilers. Exhaust temperatures are proportional to boiler efficiency and were taken from a boiler flue gas/temperature table assuming a typical 85 percent efficiency rating (Cleaver Brooks 2010). Boilers were assumed to run 24 hours per day. The assumed stack parameters for the boilers are shown in Table 7.

EMERGENCY GENERATORS

Emergency generators provide electricity to buildings in emergency situations. At UC Santa Cruz, all emergency generators are powered by natural gas. To obtain the number of new emergency natural gas generators, the existing number of generators was scaled up by the percent growth anticipated in electricity demand on campus. As shown in Table 5, the anticipated growth in overall electricity demand is assumed to result in the addition of 27 new generators. The location of the new generators was scattered across new development areas and generally centralized around clusters of buildings, based on preliminary new building drawings, and were determined exclusive of the type of building it would serve.

The modeled stack parameters were based on the GENERAC 150 kW natural gas emergency generators (GENERAC 2017). This size was selected based on the average size of existing generators, weighted by annual energy use. The model was selected due to the stack parameter data available for this model. This model is also one of the more recent models installed by the university. Stack heights are independent of the buildings served by the generators because the generators are generally standalone units. Generators were assumed to operate one hour four times per year to account for maintenance and testing. All stack parameters for the new generators are shown in Table 7.

STANDBY GENERATORS

UC Santa Cruz proposes to install and operate four 5-MW natural gas standby generators. Standby generators differ from emergency generators in that they support more building systems and functions during a power outage. The new standby generators would be located on a half-acre lot southwest of the West Remote parking lot. Based on the campus's historical standby generator run hours between 2013 and 2019, standby generators have run an average of 18 hours per year per generator (Clothier, pers. comm., 2020). Conservatively rounding up this average annual run time, the new standby generators are assumed to operate 20 hours per year.

The modeled stack parameters were based on Solar Turbines Mercury 50, a 4.6 MW Solar Turbines Mercury 50 recuperated gas turbine generator set, which is used as a proxy for the proposed standby generators based on the similar size and application. Required stack specifications, such as exhaust temperature, were also more readily available for this generator model.

This generator was selected as a proxy the proposed standby generators were modeled as an area source with a release height equivalent to that assumed for the emergency generators (1.57 meters). The polygon associated with the area was based on the half-acre lot drawing provided by UC Santa Cruz (Carpenter, pers. comm., 2020c).

NATURAL GAS COGENERATION TURBINES

Existing natural gas turbines provide both heat and electricity through cogeneration. It was assumed that the two existing turbines at the Central Plant would increase emissions by 25 percent in line with the expected percent increase in energy demand. The stack parameters for the existing turbines was based on the assumptions used for the same facilities in the 2005 LRDP HRA and are shown in Table 7. The turbines were assumed to run 24 hours per day.

LABORATORIES WITH FUME HOODS

Laboratories, especially those with fume hoods, store and actively use a variety of chemicals that can become airborne through chemical evaporative losses during storage and normal chemical handling. Many of these chemicals are considered TACs by OEHHA. UC Santa Cruz staff provided an inventory of all chemicals currently stored for each existing facility (as of 2020) and also provided a list of buildings with fume hoods. For modeling purposes, only buildings with fume hoods were considered in this analysis, due to the higher likelihood of TAC emissions associated with the need for fume hoods.

Currently, 11 laboratory buildings on campus operate fume hoods; however, the exact number and location of new laboratory buildings to be built under the LRDP is not known at this time. As shown in Table 2-2 of Section 2.0, *Project Description*, of the DEIR, Instruction and Research building area would increase by 31 percent under the LRDP. Assuming the average existing laboratory building size remains constant and that laboratory emissions are proportional to laboratory building size, it is assumed that three new laboratory buildings with fume hoods would be operated under the LRDP. For modeling purposes, the new buildings were scattered across the LRDP envisioned development areas based on preliminary building drawings.

Area sources were used to represent emissions from all possible stacks and vents that would emit the evaporative losses from the chemicals used in these facilities. It was assumed that each area source would be emitted at the height of the building it represents. For the new buildings, building height is not yet known, so an approximate release height of 30 ft was used to represent two to three-story buildings. The assumed areas in which these emissions would occur were based on building footprints available from preliminary building drawings. These assumptions are summarized in Table 8.

GASOLINE STORAGE TANK

The campus stores and dispenses gasoline at its Fleet Services' Central Garage at the south end of the campus. Although MBARD requires the facility to have vapor recovery systems in place, fugitive emissions from the storage of gasoline is inevitable during dispensing and storage. Because the use of gasoline is related to campus fleet activity and assuming campus fleet activity scales in proportion to the total number of facilities on campus, the growth in gasoline storage tank use under the LRDP is assumed to be proportional to the anticipated increase total building area. As mentioned previously, the campus's total building area is expected to grow by 50 percent. It is likely that any increases in gasoline storage and dispensing would continue to occur at the Central Garage due to the consolidated fleet services there. It is possible that a new tank could be constructed in the vicinity of the existing tank or the existing tank could be refueled more frequently. As such, and because of the various locations on-site from which TAC vapor gases could be emanated, the emissions from this source were modeled as an area source. Area sources represent emissions all possible stacks and vents that would emit the evaporative losses from the gasoline vapors at this facility. It was assumed that this area source would be emitted at a height of one meter. These assumptions are summarized in Table 8.

MOBILE SOURCES

New vehicle trips would result from the implementation of the LRDP compared to existing conditions. Diesel PM emissions from diesel vehicle trips, such as those used for delivery trucks, would be the primary source of TACs from mobile sources during operations. The same methods, location of sources, and modeling input parameters used for construction hauling and vendor trips were used to model diesel PM from mobile sources during operations. (See Section 2.6.1).

2.7.2 Emission Rates

Emissions rates for operations were based on a combination of data from MBARD's AB 2588 assessment for UC Santa Cruz, the campus's chemical inventory for laboratories, assumptions used in the 2005 LRDP HRA, and results from the DEIR air quality analysis. MBARD's AB 2588 assessment included a health risk Prioritization Score Assessment spreadsheet for the campus that lists the TACs, emission factors (e.g., pounds of 1,3-Butadiene per gallon of fuel), and annual fuel consumption for existing boilers, emergency generators, gasoline storage tank, and natural gas turbines as of 2017 (Kim, pers. comm., 2020b). It was assumed that the equipment usage rates would remain unchanged in 2018, the baseline year evaluated in the DEIR. Emission rates from laboratories were based on the campus's chemical inventory and annual evaporative loss factors used in other similar university HRAs (UC Davis, UC San Francisco [UCSF], UC San Diego).

BOILERS

The annual and maximum hourly emission rates (lb/year and lb/hr) from these sources were calculated based on MBARD's Prioritization Score Assessment. Maximum hourly emission rates for were calculated from annual emission rates by dividing total annual emissions by 24 hours per day and 365 days per year. Average boiler TAC emission factors across all existing boilers were used to represent the emission factors associated with each of the three new boilers modeled in AERMOD. The final calculated annual and hourly emission rates assumed for each new boiler are shown in Table 9.

Table 9 Annual and Maximum Hourly Emission Rates for Individual Proposed Natural Gas Boilers

Pollutant	Annual TAC Emission Rates (lb/year)	Max Hourly TAC Emissions Rates (lb/hr)
Acetaldehyde	1.27E-06	1.11E-02
Benzene	2.36E-06	2.06E-02

Table 9 Annual and Maximum Hourly Emission Rates for Individual Proposed Natural Gas Boilers

Pollutant	Annual TAC Emission Rates (lb/year)	Max Hourly TAC Emissions Rates (lb/hr)
Formaldehyde	5.01E-06	4.38E-02
Toluene	1.08E-05	9.44E-02
Xylenes (mixed)	8.01E-06	7.02E-02

Notes: lb = pound, TAC = toxic air contaminants

Source: Data provided by Ascent Environmental, Inc. in 2020 based on modeling using data from MBARD's Prioritization Score Assessment for UC Santa Cruz (Kim, pers. comm., 2020b).

EMERGENCY GENERATORS

The annual and maximum hourly emission rates (lb/year and lb/hr) from these sources were calculated based on MBARD's Prioritization Score Assessment for UC Santa Cruz and scaled up based on the anticipated net energy increase under the LRDP (Kim, pers. comm., 2020b). Maximum hourly emission rates for were calculated from annual emission rates by dividing total annual emissions by four to represent a quarterly maintenance schedule. Average generator TAC emission factors across all existing generators were used to represent the emission factors associated with each of the 27 new emergency generators modeled in AERMOD. The final calculated annual and hourly emission rates assumed for each new generator are shown in Table 10.

Table 10 Annual and Maximum Hourly Emission Rates for Individual Proposed Natural Gas Emergency Generators

Pollutant	Annual TAC Emission Rates (lb/year)	Max Hourly TAC Emissions Rates (lb/hr)
1,3-Butadiene	3.45E-05	8.61E-06
Acetaldehyde	1.08E-03	2.70E-04
Benzene	5.68E-05	1.42E-05
Carbon tetrachloride	4.74E-06	1.18E-06
Chloroform	3.68E-06	9.19E-07
Formaldehyde	6.81E-03	1.70E-03
Methanol	3.23E-04	8.06E-05
Methylene chloride (Dichloromethane)	2.58E-06	6.45E-07
Phenol	3.10E-06	7.74E-07
Styrene	3.05E-06	7.61E-07
Toluene	5.26E-05	1.32E-05
Vinyl chloride	1.92E-06	4.81E-07
Xylenes (mixed)	2.37E-05	5.94E-06

Notes: lb = pound, TAC = toxic air contaminants

Source: Data provided by Ascent Environmental, Inc. in 2020 based on modeling using data from MBARD's Prioritization Score Assessment for UC Santa Cruz (Kim, pers. comm., 2020b).

STANDBY GENERATORS

The annual and maximum hourly emission rates for the four proposed standby generators were assumed to have the same emission factors (lb of TAC per million standard cubic feet [MMSCF] of natural gas) as emergency generators. These factors were available in MBARD's Prioritization Score Assessment and are shown below in Table 11 (Kim, pers. comm., 2020b).

Table 11 Emission Factors for Natural Gas Engines

Pollutant	TAC Emission Factors (lb/MMSCF)
1,3-Butadiene	2.67E-01
Acetaldehyde	8.36E+00
Benzene	4.40E-01
Carbon tetrachloride	3.67E-02
Chloroform	2.85E-02
Formaldehyde	5.28E+01
Methanol	2.50E+00
Methylene chloride {Dichloromethane}	2.00E-02
Phenol	2.40E-02
Styrene	2.36E-02
Toluene	4.08E-01
Vinyl chloride	1.49E-02
Xylenes (mixed)	1.84E-01

Notes: lb = pound, TAC = toxic air contaminants, MMSCF = million standard cubic feet
Source: Kim, pers. comm., 2020b.

The annual energy use (in MMSCF) in the standby generators was calculated based on a run time of 20 hours. For modeling purposes, the calculation of the annual energy use based on the heat rate of a 4.6 MW Solar Turbines Mercury 50 recuperated gas turbine generator set, which is used as a proxy for the proposed standby generators based on the similar size and application. This generator set has a heat rate of 8,865 BTU/kWh, which means that 8,865 BTU of natural gas is needed to generate 1 kWh of electricity and a 38 percent efficiency rate (Solar Turbines 2018). (UC Santa Cruz has not yet determined the exact models that would be used as the proposed standby generators.) Based on this heat rate and conservativity assuming the generators are run at full load, running the 5-MW generators for 20 hours per year would generate 400 MWh and require 3,546 million BTU, or 3.48 MMSCF of natural gas. Table 12 shows the resulting emission rates for the area source modeled for the four standby generators. Maximum hourly emission rates assume all four generators are run simultaneously for one-hour.

Table 12 Annual and Maximum Hourly Emission Rates for Individual Proposed Natural Gas Standby Generators

Pollutant	Annual TAC Emission Rates (lb/year)	Max Hourly TAC Emissions Rates (lb/hr)
1,3-Butadiene	2.32E-01	1.16E-02
Acetaldehyde	7.27E+00	3.63E-01
Benzene	3.82E-01	1.91E-02
Carbon tetrachloride	3.19E-02	1.59E-03
Chloroform	2.48E-02	1.24E-03

Table 12 Annual and Maximum Hourly Emission Rates for Individual Proposed Natural Gas Standby Generators

Pollutant	Annual TAC Emission Rates (lb/year)	Max Hourly TAC Emissions Rates (lb/hr)
Formaldehyde	4.59E+01	2.29E+00
Methanol	2.17E+00	1.09E-01
Methylene chloride (Dichloromethane)	1.74E-02	8.69E-04
Phenol	2.09E-02	1.04E-03
Styrene	2.05E-02	1.03E-03
Toluene	3.55E-01	1.77E-02
Vinyl chloride	1.29E-02	6.47E-04
Xylenes (mixed)	1.60E-01	8.00E-03

Notes: lb = pound, TAC = toxic air contaminants

Source: Data provided by Ascent Environmental, Inc. in 2020 based on modeling using data from MBARD's Prioritization Score Assessment for UC Santa Cruz (Kim, pers. comm., 2020b).

NATURAL GAS COGENERATION TURBINES

The annual and maximum hourly emission rates (lb/year and lb/hr) from these sources were calculated based on MBARD's Prioritization Score Assessment, which provided emissions estimates for one turbine permit. This permit covers two turbine equipment pieces that operate at the campus's Central Plant. Thus, emissions from the assessment were distributed to each turbine stack then multiplied by 25 percent to obtain the emissions associated with LRDP operations. Maximum hourly emission rates for were calculated from annual emission rates by dividing total annual emissions by 24 hours per day and 365 days per year. The net new annual and hourly emission rates associated with the increased emissions from existing turbines are shown in Table 13.

Table 13 Net New Annual and Maximum Hourly Emission Rates for Individual Existing Natural Gas Turbine

Pollutant	Annual TAC Emission Rates (lb/year)	Max Hourly TAC Emissions Rates (lb/hr)
1,3-Butadiene	1.84E-02	8.35E-06
Acetaldehyde	1.71E+00	7.77E-04
Benzene	3.90E-02	1.77E-05
Formaldehyde	8.56E-01	3.88E-04
Propylene oxide	1.24E+00	5.63E-04
Toluene	5.56E+00	2.52E-03
Xylenes (mixed)	2.74E+00	1.24E-03

Notes: lb = pound, TAC = toxic air contaminants

Source: Data provided by Ascent Environmental, Inc. in 2020 based on modeling using data from MBARD's Prioritization Score Assessment for UC Santa Cruz (Kim, pers. comm., 2020b).

LABORATORIES WITH FUME HOODS

For the existing laboratories, a total of 63 individual TACs were identified from UC Santa Cruz's chemical inventory. These TACs were assumed to represent the emissions profile of all proposed new laboratory buildings. It was assumed that the rate of chemical usage per square foot would stay the same as existing buildings. To apply this rate to the three identified potential new laboratory buildings, an average emissions of laboratory chemicals per building footprint area was developed. This was done because, while the number of floors and total building square footage is not yet known for the new buildings, preliminary building drawings have building footprint areas. This approach reasonably assumes that the new buildings have the same average number of floors as the existing laboratory buildings. The existing and new building footprints from which these building area calculations are made are shown in Table 14, and the polygon vectors corresponding to the building footprints for the new laboratories are shown in Table 8.

Table 14 Existing and Proposed Laboratory Building Footprint Area (sf)

Building	Building Footprint (sf)
Existing Laboratories	
Biomedical Building	20,912
Earth and Marine Sciences	42,301
Jack Baskin Engineering	39,729
Natural Sciences II	19,455
Physical Sciences Building	32,457
Sinsheimer	21,396
Social Science 1	12,573
Thimann	23,149
Thimann II Lecture Hall	5,652
TOTAL	217,624
New Laboratories	
Laboratory 1	37,620
Laboratory 2	19,966
Laboratory 3	10,931
Notes: sf = square foot	
Source: Data compiled by Ascent Environmental in 2020	

To develop emission rates based on the existing chemical inventory, the recorded quantities of 63 different chemicals identified as TACs by OEHHA were each divided by the total building footprint of the existing laboratory buildings, shown in Table 14, to generate average chemical emissions factors per building square foot. Annual loss factors were then applied to these emission factors, assuming a conservative annual loss factor from a chemical inventory of 5 percent for chemicals of general experimentation, 10 percent for formaldehyde, 20 percent for ethanol and isopropanol, and 100 percent for methyl bromide. These loss factors were taken from the HRA for UC San Diego's 2004 LRDP and UC San Diego's Hillcrest Campus 2019 LRDP, but are also conservative relative to factors used in the HRAs for UC Davis's 2018 LRDP and UCSF's 2014 LRDP (UC San Diego 2004, UC San Diego 2019, UC Davis 2014, UC San Francisco 2014). The resulting annual emission rates were divided by 365 days and 24 hours per day to obtain maximum hourly emission rates. The emission rates per building square foot were then multiplied by the estimated building footprints of the new potential laboratories that would be operated under the LRDP. The applied annual and maximum hourly emission rates per building square foot are shown in Table 15.

Table 15 Proposed Laboratory Chemical Inventory and Emission Rates per Building Square Foot

Chemical	Annual Emission Rate per Building Square Foot (lb/year-sf)	Maximum Hourly Emission Rate per Building Square Foot (lb/hr-sf)
1,1,2,2-Tetrachloroethane	2.01E-06	2.30E-10
1,1,2-Trichloroethane	2.53E-06	2.89E-10
1,2-Dichloroethylene	1.44E-05	1.64E-09
1,2-Epoxybutane	2.10E-08	2.40E-12
1,3-Butadiene	5.07E-08	5.78E-12
1,4-Dioxane	3.57E-06	4.08E-10
Acetaldehyde	2.93E-07	3.35E-11
Acrolein	3.49E-07	3.98E-11
Acrylonitrile	5.33E-07	6.09E-11
Allyl chloride	4.76E-08	5.44E-12
Ammonia	5.08E-05	5.80E-09
Aniline	1.87E-06	2.14E-10
Arsenic compounds (inorganic)	5.95E-07	6.79E-11
Benzene	1.97E-05	2.25E-09
Benzyl chloride	5.58E-07	6.37E-11
Bromine	4.60E-06	5.25E-10
Cadmium	3.29E-06	3.75E-10
Carbon disulfide	9.57E-07	1.09E-10
Carbon monoxide	5.40E-06	6.16E-10
Carbon tetrachloride	2.37E-06	2.71E-10
Chlorobenzene	4.78E-06	5.46E-10
Chloroform	2.05E-04	2.34E-08
Di(2-ethylhexyl) phthalate	7.52E-07	8.59E-11
Diethanolamine	2.37E-07	2.71E-11
Ethyl benzene	6.07E-07	6.93E-11
Ethylene dibromide {EDB}	1.55E-06	1.77E-10
Ethylene glycol	6.53E-05	7.45E-09
Ethylene glycol dimethyl ether	1.62E-06	1.85E-10
Formaldehyde	5.79E-05	6.61E-09
Glutaraldehyde	7.35E-06	8.39E-10
Hexane	7.80E-05	8.91E-09
Hydrazine	1.79E-07	2.05E-11
Hydrochloric acid	4.11E-04	4.70E-08
Hydrogen fluoride	1.91E-05	2.18E-09
Isopropyl alcohol	2.60E-04	2.97E-08
Lead	1.35E-06	1.54E-10

Table 15 Proposed Laboratory Chemical Inventory and Emission Rates per Building Square Foot

Chemical	Annual Emission Rate per Building Square Foot (lb/year-sf)	Maximum Hourly Emission Rate per Building Square Foot (lb/hr-sf)
Manganese	2.94E-06	3.35E-10
m-Cresol	5.24E-07	5.98E-11
Mercuric chloride	5.50E-07	6.28E-11
Mercury	1.24E-06	1.42E-10
Methanol	2.19E-03	2.50E-07
Methyl chloroform {1,1,1-Trichloroethane}	2.67E-06	3.05E-10
Methyl ethyl ketone {2-Butanone}	1.04E-05	1.19E-09
m-Xylene	6.53E-07	7.46E-11
Nickel	9.89E-07	1.13E-10
Nitric acid	1.78E-04	2.03E-08
o-Cresol	1.27E-07	1.45E-11
Oleum	2.53E-07	2.89E-11
o-Xylene	6.69E-07	7.63E-11
p-Cresol	1.27E-08	1.45E-12
Perchloroethylene {Tetrachloroethene}	3.69E-06	4.22E-10
Phenol	4.94E-06	5.63E-10
Phosphoric acid	7.13E-05	8.13E-09
Propylene glycol monomethyl ether	2.33E-08	2.66E-12
Propylene oxide	1.99E-07	2.27E-11
p-Xylene	4.36E-06	4.98E-10
Sodium hydroxide	4.32E-05	4.93E-09
Styrene	1.43E-06	1.63E-10
Sulfuric acid	1.57E-04	1.79E-08
t-Butyl acetate	3.97E-07	4.53E-11
Toluene	1.07E-04	1.22E-08
Triethylamine	9.75E-06	1.11E-09
Xylenes (mixed)	5.99E-05	6.84E-09

Notes: kg/yr = kilograms per year; g /s = grams per second; OEHHA = Office of Environmental Health Hazard Assessment; CARB = California Air Resources Board

Source: Data compiled by Ascent Environmental, Inc., in 2020

GASOLINE STORAGE TANK

The annual and maximum hourly emission rates (lb/year and lb/hr) from these sources were calculated based on annual emission rates for the existing gasoline storage tank in MBARD's Prioritization Score Assessment. MBARD's annual emission rates were multiplied by 50 percent to obtain the rates associated with the net increase in anticipated evaporative emissions from the tank and gasoline dispensing. Maximum hourly emission rates for were

calculated from annual emission rates by dividing total annual emissions by 24 hours per day and 365 days per year. The final calculated annual and hourly emission rates assumed for the gasoline storage tank are shown in Table 16.

Table 16 Net New Annual and Maximum Hourly Emission Rates for Existing Gasoline Storage Tank

Pollutant	Annual TAC Emission Rates (lb/year)	Max Hourly TAC Emissions Rates (lb/hr)
Benzene	8.95E-01	2.04E-04
Ethyl Benzene	1.43E+00	3.27E-04
Toluene	7.16E+00	1.63E-03
Xylenes	2.15E+00	4.90E-04

Notes: lb = pound, TAC = toxic air contaminants

Source: Data provided by Ascent Environmental, Inc. in 2020 based on modeling using data from MBARD's Prioritization Score Assessment for UC Santa Cruz (Kim, pers. comm., 2020b).

MOBILE SOURCES

The diesel PM emission rates associated with new vehicle trips under the LRDP were derived from the net new annual PM₁₀ exhaust emissions related to mobile sources as part of the modeling done for Section 3.3, *Air Quality*, of the DEIR. Appendix C1 of the DEIR reports that the LRDP would result in 0.064 tons of PM₁₀ exhaust per year and a maximum of 0.43 lb of PM₁₀ exhaust per day from new mobile sources. These emissions estimates were based on CalEEMod modeling using forecasted vehicle trip data from Fehr and Peers (See Table 6 of Appendix I of the UC Santa Cruz LRDP Draft EIR). Because mobile sources are comprised of both gasoline and diesel vehicles, the percentage of PM₁₀ emissions associated with diesel exhaust (7.92%) was applied to the annual and daily emissions to obtain the diesel portion of the PM₁₀ estimates. This percentage was calculated by combining the vehicle mix assumed in CalEEMod with the percent distribution of PM₁₀ emissions by vehicle type assumed in EMFAC2017 for 2040; this is demonstrated in Table 17.

Table 17 Percent of LRDP Mobile PM₁₀ Exhaust Emissions from Diesel Vehicles

EMFAC Vehicle Class	CalEEMod Vehicle Mix ¹ (Percent of Total Vehicle Population)	Percent of PM ₁₀ Exhaust Emissions from Each Vehicle Class that is from Diesel Combustion ²
Light Duty Autos	60.78%	1.93%
Light Duty Trucks 1	2.29%	0.12%
Light Duty Trucks 2	20.59%	5.17%
Medium Duty Vehicles	10.39%	5.15%
Light Heavy Duty Trucks 1	0.99%	80.91%
Light Heavy Duty Trucks 2	0.38%	95.90%
Medium Heavy Duty Trucks	2.26%	97.87%
Heavy Heavy Duty Trucks	1.46%	99.81%
Other Bus	0.13%	88.06%
Urban Bus	0.13%	50.36%
School Bus	0.08%	95.94%
Medium Heavy Duty Truck	0.05%	97.87%
Average percent of PM ₁₀ exhaust emissions from all vehicles associated with diesel vehicles, weighted by the project-specific vehicle mix assumed in CalEEMod.		7.92%

Notes: PM₁₀ = particulate matter less than 10 micrometers in diameter

¹ See the CalEEMod outputs for LRDP operational emissions in Appendix C1 of the DEIR.

Table 17 Percent of LRDP Mobile PM₁₀ Exhaust Emissions from Diesel Vehicles

² Based on EMFAC2017 data queried for Santa Clara County and Calendar Year 2040.

Source: Data compiled by Ascent Environmental in 2020

The resulting annual and maximum hourly emissions are shown in Table 18. Maximum hourly emissions were calculated by dividing the adjusted maximum daily emissions by 24 hours per day.

Table 18 Annual and Maximum Hourly Emission Rates for New Mobile Sources

Pollutant	Annual TAC Emission Rates (lb/year)	Max Hourly TAC Emissions Rates (lb/hr)
Diesel PM	10.17	1.43E-03

Notes: lb = pound

Source: Data provided by Ascent Environmental, Inc. in 2020 based on data from UC Santa Cruz's 2005 LRDP HRA. (UC Santa Cruz 2005)

2.7.3 Cancer and Non-Cancer Risk Assumptions

Table 19 summarizes the parameters and assumptions used to estimate health risks by receptor type for operation-related risks. These parameters are used for operation-related risks and for both existing and proposed scenarios.

Table 19 Risk Parameters for Cancer and Non-Cancer Risk for Operation-Related Risks¹

Risk Parameters	Residential and Sensitive Receptors			Worker Receptors		
	Cancer Risk	Chronic Risk (Non-cancer)	Acute Risk (Non-cancer)	Cancer Risk	Chronic Risk (Non-cancer)	Acute Risk (Non-cancer)
Analysis Type	Cancer Risk	Chronic Risk (Non-cancer)	Acute Risk (Non-cancer)	Cancer Risk	Chronic Risk (Non-cancer)	Acute Risk (Non-cancer)
Receptor Type	Residential	Residential	Residential	Worker	Worker	Worker
Exposure Duration	30 years	N/A	N/A	25 years	N/A	N/A
Starting Age	3 rd Trimester	N/A	N/A	16 years	N/A	N/A
Intake Rate Percentile	OEHHA Derived Method	OEHHA Derived Method	N/A	OEHHA Derived Method	OEHHA Derived Method	N/A
Risk Pathways Evaluated	Mandatory Minimum Pathways	Mandatory Minimum Pathways	Inhalation Pathway	Worker Pathways	Worker Pathways	Inhalation Pathway
Deposition Rate	0.05 m/s	0.05 m/s	N/A	0.05 m/s	0.05 m/s	N/A
FAH	Off	Off	Off	Off	Off	Off
8-Hour Breathing Rates	Off	Off	Off	Yes, Moderate	Yes, Moderate	Yes, Moderate
Climate	Warm	Warm	N/A	Warm	Warm	N/A

Notes: N/A = not applicable; OEHHA = Office of Environmental Health Hazard Assessment; m/s = meters per second; FAH = fraction of time at home

1. Analysis was prepared consistent with OEHHA Guidance (OEHHA 2015).

Source: Data compiled by Ascent Environmental, Inc., in 2020

3 RESULTS

3.1 CANCER RISK

3.1.1 Construction

Table 20 shows the modeled cancer risks at the PMI and the MEIR receptors associated with emissions resulting from the construction of the LRDP. Both the PMI and MEIR occur on campus. The construction scenario column in Table 20 represents the cancer risks at the PMI and MEIR under the construction scenario. These receptors are also identified in Figure 5.

Table 20 Modeled Cancer Risks from Construction Emissions Sources

Receptor ¹	Location Description	Construction Scenario Cancer Risk (Chances in a million)	Easting (m) ²	Northing (m) ²
PMI (On-Site) ³	Approximately 40 feet northeast of the Central Plant	8.4	583593.91	4095470.34
MEIR (On-Site)	College Nine/Ten Apartments	7.2	583693.91	4095570.34
Maximally Exposed Sensitive Receptor	Student Health Services	6.2	583893.91	4095270.34
MBARD Significance Threshold		10.0	N/A	N/A
Threshold Exceeded?		Yes	N/A	N/A

Notes: MEIR = maximally exposed individual resident; MEIW = maximally exposed individual worker; N/A = not applicable. Risks exceeding threshold are underlined.

¹. Receptors selected based on occurrence under Proposed Scenario.

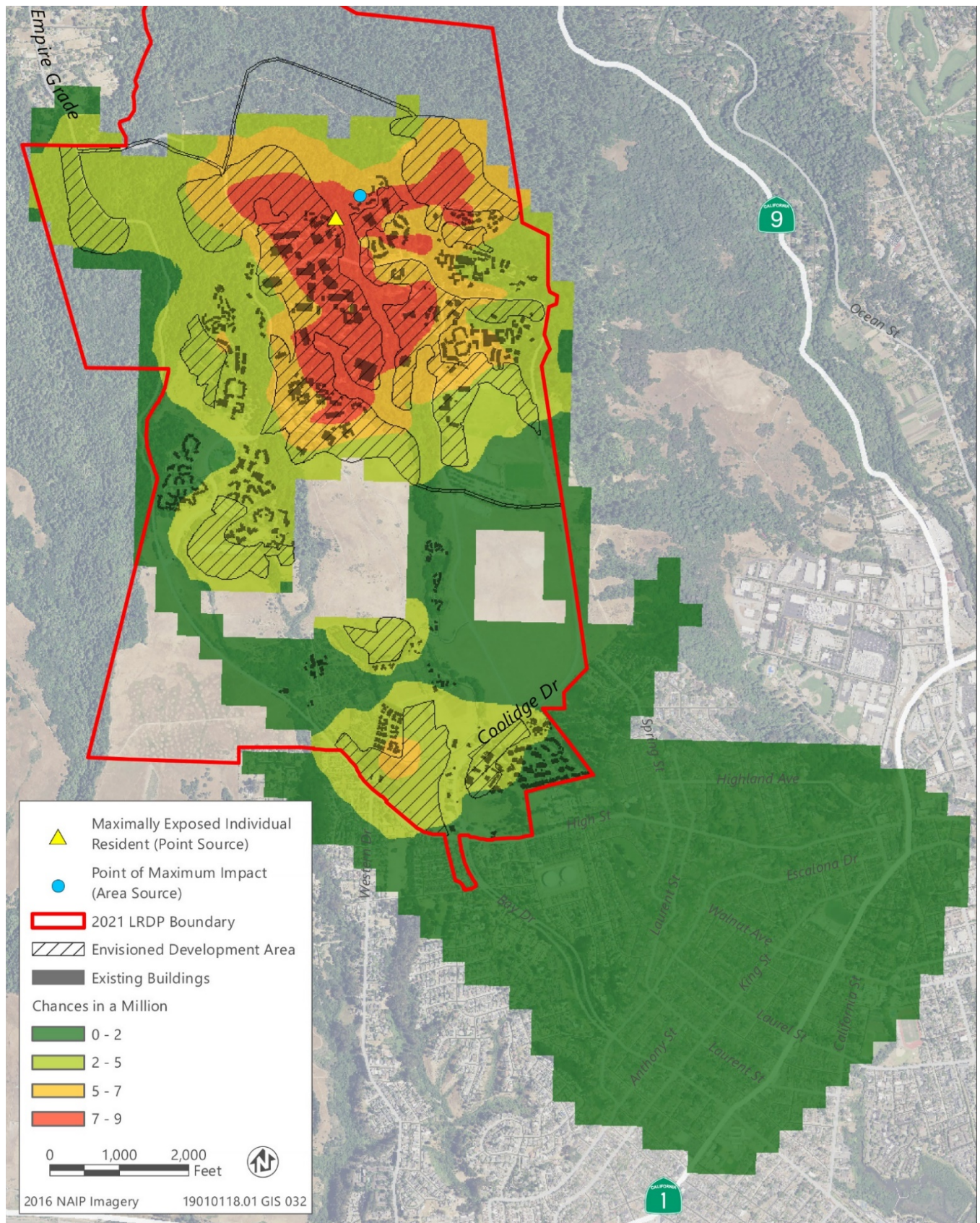
². Based on Universal Transverse Mercator coordinates.

³. Based on residential exposure assumptions.

Source: Data provided by Ascent Environmental, Inc., in 2020

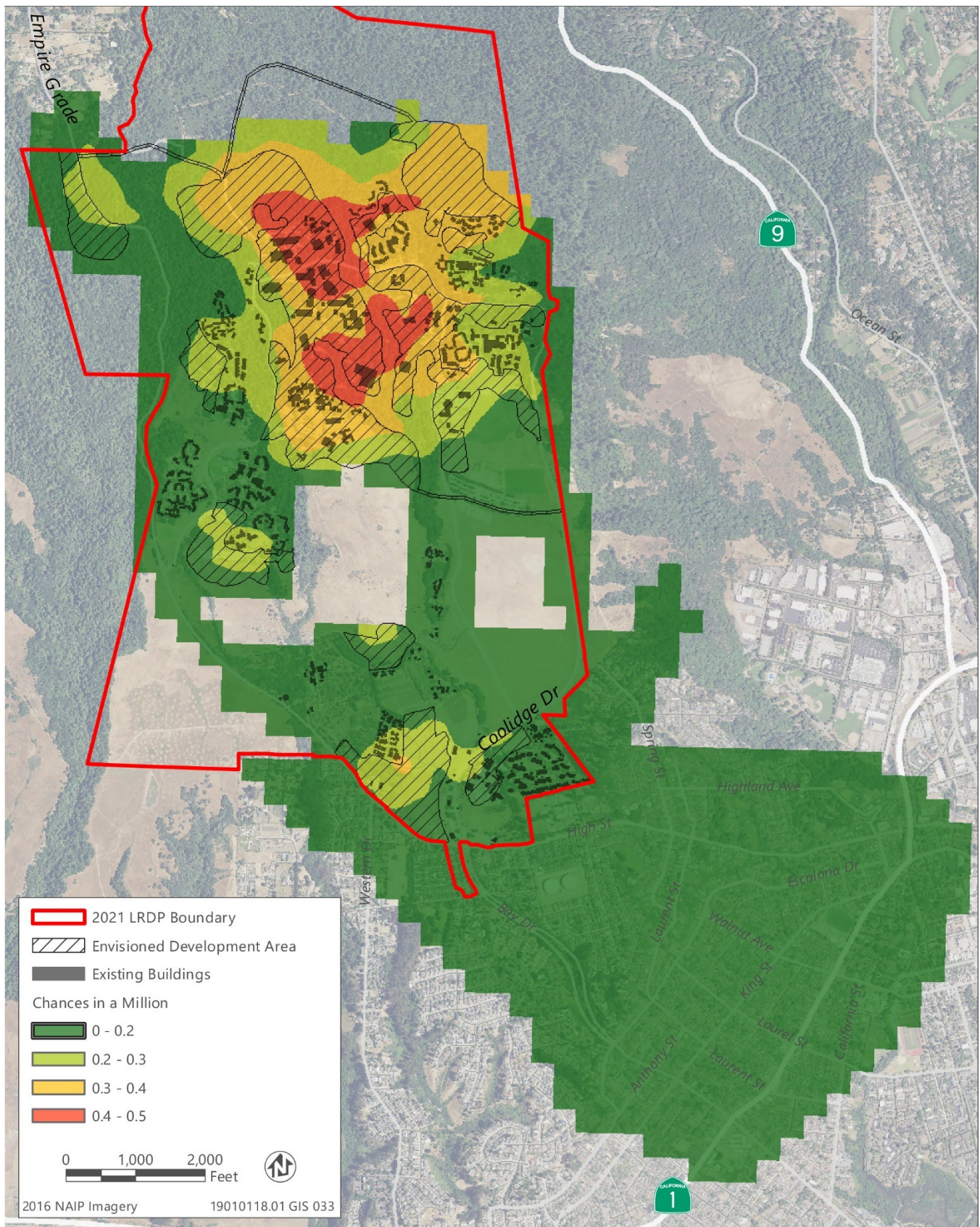
As shown in Table 20, based on the exposure and construction emission assumptions discussed above, construction of the LRDP would not result in an incremental increase in cancer risk that exceeds MBARD's significance threshold of 10.0 in a million. At the PMI, the incremental increase in cancer risk from construction of the LRDP would be 8.4 in a million; and at the MEIR, the incremental increase cancer risk would be 7.2 in a million. The maximally exposed sensitive receptor would be subject to an incremental increase in cancer risk of 6.2 in a million. Worker cancer risks, as shown in Figure 6, would not exceed the threshold of 10.0 in a million.

Figure 5 shows that the receptors with greatest cancer risks are generally located in the center of the proposed envisioned development areas, in the north central area of the campus. For the sensitive receptors identified in Table 1, risks would not exceed the threshold of 10.0 in a million, based on 30-year residential exposure rates.



Source: Adapted by Ascent in 2020

Figure 5 Residential Cancer Risk Contours for Construction (Unmitigated)



Source: Adapted by Ascent in 2020

Figure 6 Worker Cancer Risk Contours for Construction

3.1.1.1 Operation

Based on the modeled locations of new and modified existing sources under the LRDP, assumed modeling parameters, and estimated emission rates, Figures 6 and 7 show that, LRDP operations would not result in residential and worker cancer risks exceeding an incremental increase of 1.79 and 0.30 chances in a million at any receptor, respectively. The highest incremental increase in risks is located within 100 m of Engineering 2 and Communications buildings, in the north part of the campus. These results are shown in Table 21. Estimated operational cancer risks for all receptors are below MBARD's cancer risk thresholds.

Table 21 Modeled Chronic Risks from Operational Emissions Sources

	Maximum Cancer Risk (Chance in a Million)	Easting (m) ⁴	Northing (m) ⁴
MEIW ¹	0.30	583493.91	4095370.34
MEIR ²	1.79	584093.91	4094870.34
PMI ^{1,3}	4.82	583493.91	4095370.34
MBARD Significance Threshold	1.0	N/A	N/A
Threshold Exceeded?	No	N/A	N/A

Notes: PMI = point of maximum impact; maximally exposed individual resident; MEIW = maximally exposed individual worker; N/A = not applicable; HHI = health hazard index

¹ Located at the Communications Buildings

² Located at Cowell Apartments

³ Modeled with residential risk parameters.

⁴ Based on Universal Transverse Mercator coordinates.

Source: Data provided by Ascent Environmental, Inc., in 2020

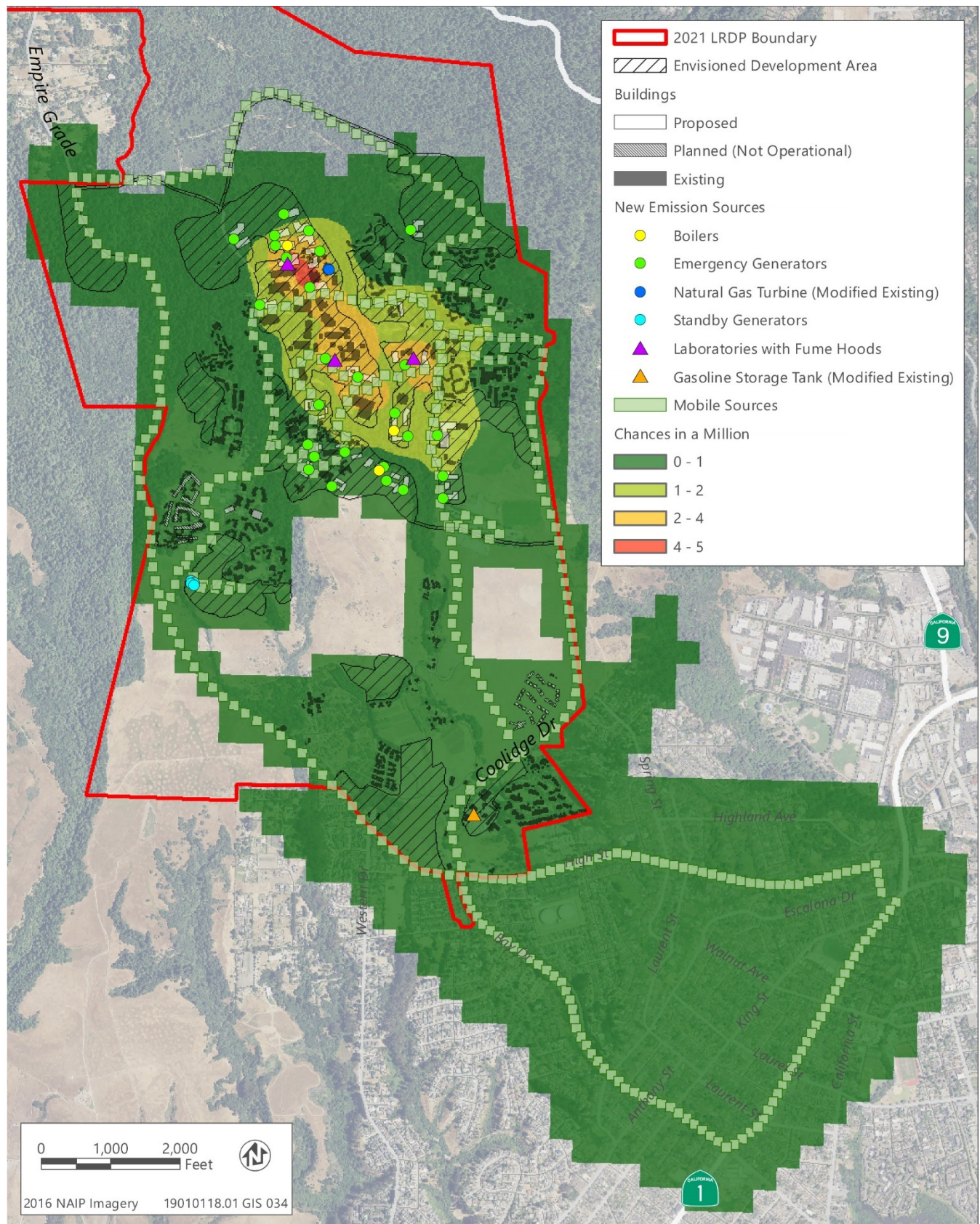


Figure 7 Contours of Incremental Increase in Residential Cancer Risk for Proposed Operations

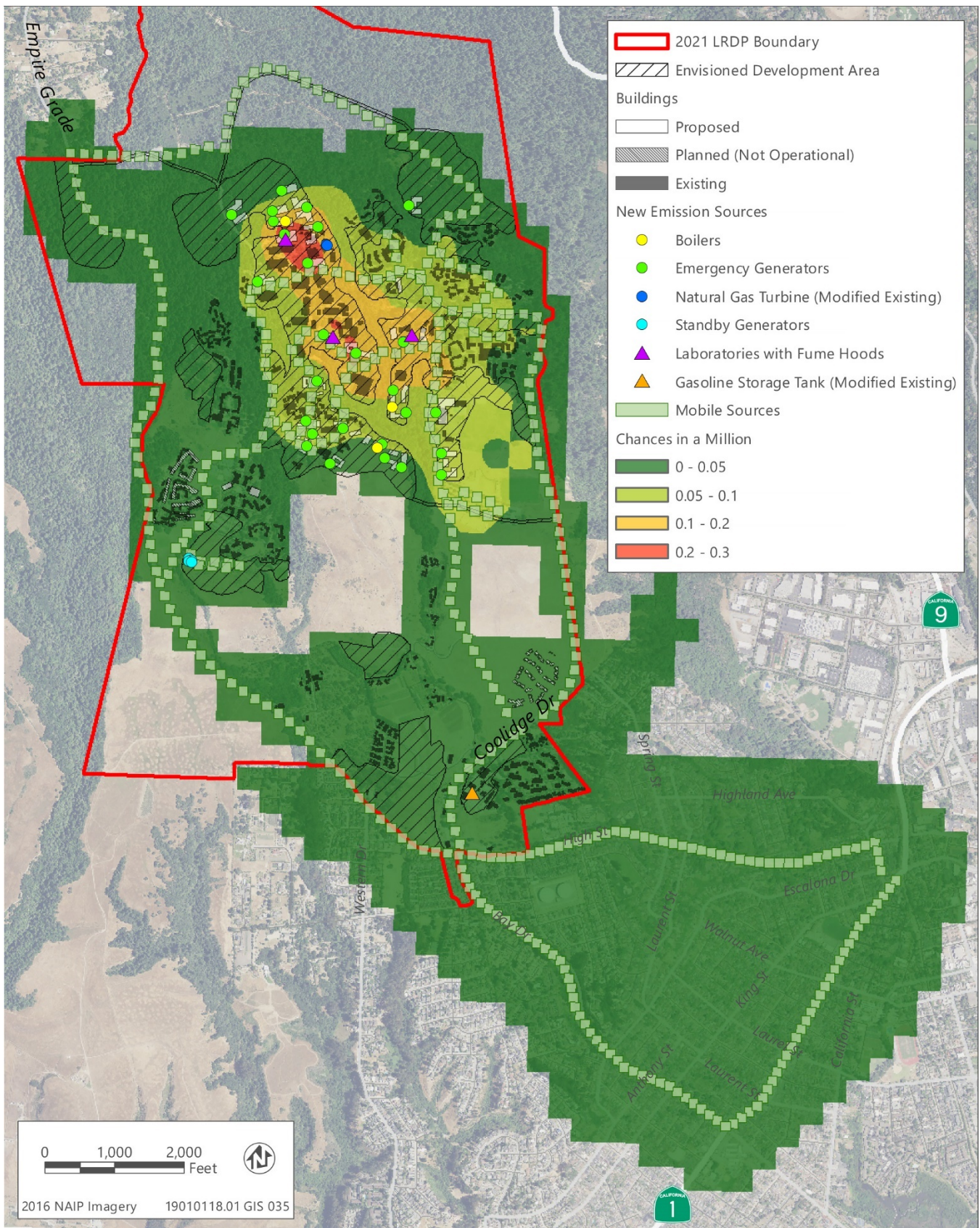


Figure 8 Contours of Incremental Increase in Worker Cancer Risk for Proposed Operations

3.2 NON-CANCER RISKS

3.2.1 Construction

Construction non-cancer chronic risks were estimated for the modeled receptors. During construction, both worker and residential non-cancer chronic risks would not exceed an HHI of 0.002. No acute risks are available for construction activities because diesel PM, the only pollutant modeled for construction, does not currently have an acute risk factor. No isopleth contours are shown because all modeled construction non-cancer chronic risks are below MBARD thresholds. These results are shown in Table 22.

Table 22 Modeled Chronic Risks from Construction Emissions Sources

	Maximum Non-Cancer Chronic HHI	Easting (m) ²	Northing (m) ²
MEIW/MEIR/PMI ¹	0.002	583593.91	4095470.34
MBARD Significance Threshold	1.0	N/A	N/A
Threshold Exceeded?	No	N/A	N/A

Notes: PMI = point of maximum impact; maximally exposed individual resident; MEIW = maximally exposed individual worker; N/A = not applicable; HHI = health hazard index

¹ All occurrences of these receptors are at the same location. Located 30 m east of the UCO/Lick Building.

² Based on Universal Transverse Mercator coordinates.

Source: Data provided by Ascent Environmental, Inc., in 2020

As shown in Table 22, based on the exposure and the construction emission rates assumptions discussed in above, construction of the LRDP would not result in an HHI for chronic risk that exceeds MBARD's significance threshold of 1.0. At the PMI, the chronic risk from construction of the LRDP would have an HHI of 0.002, which does not exceed MBARD's chronic risk threshold. Thus, all other receptors would not have an HHI that exceeds MBARD's chronic risk threshold resulting from construction activity.

3.2.2 Operation

Operational non-cancer chronic and acute risks were estimated for the modeled receptors. During operations, worker and residential non-cancer chronic risks would not exceed an incremental increase of HHI of 0.11 and 0.05, respectively, which are below MBARD's chronic threshold of 1.0 for the HHI. The non-cancer chronic results are shown in Table 23.

Table 23 Modeled Chronic Risks from Operational Emissions Sources

	Maximum Non-Cancer Chronic HHI	Easting (m) ⁴	Northing (m) ⁴
MEIW ¹	0.11	583493.91	4095370.34
MEIR ²	0.05	584093.91	4094870.34
PMI ^{1,2}	0.17	583493.91	4095370.34
MBARD Significance Threshold	1.0	N/A	N/A
Threshold Exceeded?	No	N/A	N/A

Notes: PMI = point of maximum impact; maximally exposed individual resident; MEIW = maximally exposed individual worker; N/A = not applicable; HHI = health hazard index

¹ Located at the Communications Building

² Located at Cowell Apartments

³ Modeled with residential risk parameters.

⁴ Based on Universal Transverse Mercator coordinates.

Source: Data provided by Ascent Environmental, Inc., in 2020

For acute risks, acute risks for all receptor types would not exceed an incremental increase in HHI of 0.12 at the PMI, 0.10 at the MEIW, and 0.07 at the MEIR, which are below MBARD's acute threshold of 1.0 for the HHI. Table 24 shows the modeled anticipated increase in acute risks associated with LRDP operation.

Table 24 Modeled Acute Risks from Operational Emissions Sources

	Maximum Acute HHI	Easting (m) ⁴	Northing (m) ⁴
MEIW ¹	0.10	583693.91	4094870.34
MEIR ²	0.07	584093.91	4094870.34
PMI ³	0.12	583893.91	4094770.34
MBARD Significance Threshold	1.0	N/A	N/A
Threshold Exceeded?	No	N/A	N/A

Notes: PMI = point of maximum impact; maximally exposed individual resident; MEIW = maximally exposed individual worker; N/A = not applicable; HHI = health hazard index

¹ Located at McHenry Library

² Located at Cowell Apartments

³ Located at Hanh Student Services Parking Lot

⁴ Based on Universal Transverse Mercator coordinates.

Source: Data provided by Ascent Environmental, Inc., in 2020

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