

APPENDIX A

EMISSIONS CALCULATIONS

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**Table A-1
Construction Equipment Emission Factors**

Construction Equipment

Equipment Type	Fuel	Hp	2008 Emission Factors lb/hr ⁽¹⁾						
			CO	VOC	NOx	SOx	PM10	PM2.5 ⁽²⁾	
Backhoe	Diesel	75	0.370	0.108	0.651	0.001	0.059	0.055	
Compactor	Diesel	25	0.026	0.005	0.033	0.000	0.002	0.002	
Compressor	Diesel	60	0.339	0.111	0.651	0.001	0.058	0.053	
Concrete Saw	Diesel	25	0.068	0.021	0.134	0.000	0.008	0.007	
Core Drilling	Diesel	15	0.063	0.012	0.077	0.000	0.005	0.004	
Crane 15 Ton	Diesel	152	0.494	0.135	1.042	0.001	0.059	0.054	
Crane 45 Ton	Diesel	165	0.494	0.135	1.042	0.001	0.059	0.054	
Crane 80 Ton	Diesel	445	0.776	0.201	1.988	0.002	0.077	0.071	
Crane 100 Ton	Diesel	275	0.776	0.201	1.988	0.002	0.077	0.071	
Crane 300 Ton	Diesel	260	0.776	0.201	1.988	0.002	0.077	0.071	
Crane 1000 Ton	Diesel	600	1.301	0.341	3.422	0.003	0.131	0.120	
Drilling Rig Large	Diesel	30	0.273	0.081	0.290	0.000	0.025	0.023	
Drott 8.5 Ton	Diesel	80	0.370	0.108	0.651	0.001	0.059	0.055	
Excavator	Diesel	85	0.544	0.165	0.963	0.001	0.090	0.083	
Forklift	Diesel	45	0.202	0.085	0.160	0.000	0.019	0.018	
Front End Loader	Diesel	73	0.370	0.108	0.651	0.001	0.059	0.055	
Generator	Diesel	85	0.514	0.156	0.992	0.001	0.077	0.071	
Light Plants	Diesel	45	0.399	0.166	0.379	0.000	0.040	0.036	
Manlift	Diesel	48	0.201	0.083	0.204	0.000	0.020	0.019	
Welding Machine	Diesel	38	0.313	0.134	0.279	0.000	0.031	0.028	

(1) SCAQMD, 2006 : http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #425

Table A-2
Construction Equipment Emissions

Construction Equipment - Month 1
Phase 1 - Excavation, Site Preparation, Foundations

Equipment Type	Number	Hours Per Day	Emission Factors lb/hr				Daily Emissions (lbs/day) ⁽¹⁾								
			CO	VOC	NOx	SOx	CO	VOC	NOx	SOx	PM10	PM2.5			
Backhoe	1	10	0.370	0.108	0.651	0.001	0.059	0.055	0.000	3.70	1.08	6.51	0.01	0.59	0.55
Compactor			0.026	0.005	0.033	0.000	0.002	0.002	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Compressor	1	10	0.339	0.111	0.651	0.001	0.058	0.053	0.000	3.39	1.11	6.51	0.01	0.58	0.53
Concrete Saw	1	10	0.068	0.021	0.134	0.000	0.008	0.007	0.000	0.68	0.21	1.34	0.00	0.08	0.07
Core Drilling	1	10	0.063	0.012	0.077	0.000	0.005	0.004	0.000	0.63	0.12	0.77	0.00	0.05	0.04
Crane 15 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.000	4.94	1.35	10.42	0.01	0.59	0.54
Crane 45 Ton	1	10	0.494	0.135	1.042	0.001	0.059	0.054	0.000	4.94	1.35	10.42	0.01	0.59	0.54
Crane 80 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.000	7.76	2.01	19.88	0.00	1.34	1.27
Crane 100 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.000	7.76	2.01	19.88	0.00	1.34	1.27
Crane 300 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.000	7.76	2.01	19.88	0.00	1.34	1.27
Crane 1000 Ton			1.301	0.341	3.422	0.003	0.131	0.120	0.000	13.01	3.41	34.22	0.00	2.17	2.07
Drilling Rig Large			0.273	0.081	0.290	0.000	0.025	0.023	0.000	2.73	0.81	2.90	0.00	0.25	0.23
Drott 8.5 Ton			0.370	0.108	0.651	0.001	0.059	0.055	0.000	3.70	1.08	6.51	0.00	0.59	0.55
Excavator			0.544	0.165	0.963	0.001	0.090	0.083	0.000	5.44	1.65	9.63	0.00	0.90	0.83
Forklift	1	10	0.202	0.085	0.160	0.000	0.019	0.018	0.000	2.02	0.85	1.60	0.00	0.19	0.18
Front End Loader	1	10	0.370	0.108	0.651	0.001	0.059	0.055	0.000	3.70	1.08	6.51	0.01	0.59	0.55
Generator			0.514	0.156	0.992	0.001	0.077	0.071	0.000	5.14	1.56	9.92	0.00	0.77	0.71
Light Plants			0.399	0.166	0.379	0.000	0.040	0.036	0.000	3.99	1.66	3.79	0.00	0.40	0.36
Manlift			0.201	0.083	0.204	0.000	0.020	0.019	0.000	2.01	0.83	2.04	0.00	0.20	0.19
Welding Machine	1	10	0.313	0.134	0.279	0.000	0.031	0.028	0.000	3.13	1.34	2.79	0.00	0.31	0.28
Total Emission Totals	8									22.20	7.14	36.45	0.04	2.98	2.74

(1) Daily Emission Rate = Number of Equipment * Hours per Day * Emission Factor

Table A-3

Construction Equipment Emissions

Construction Equipment - Month 2
Phase 1 - Excavation, Site Preparation, Foundations

Equipment Type	Number	Hours Per Day	Emission Factors lb/hr				Daily Emissions (lbs/day) ⁽¹⁾							
			CO	VOC	NOx	SOx	CO	VOC	NOx	SOx	PM10	PM2.5		
Backhoe	1	10	0.370	0.108	0.651	0.001	0.059	0.055	3.70	1.08	6.51	0.01	0.59	0.55
Compactor			0.026	0.005	0.033	0.000	0.002	0.002	0.00	0.00	0.00	0.00	0.00	0.00
Compressor	1	10	0.339	0.111	0.651	0.001	0.058	0.053	3.39	1.11	6.51	0.01	0.58	0.53
Concrete Saw	1	10	0.068	0.021	0.134	0.000	0.008	0.007	0.68	0.21	1.34	0.00	0.08	0.07
Core Drilling	1	10	0.063	0.012	0.077	0.000	0.005	0.004	0.63	0.12	0.77	0.00	0.05	0.04
Crane 15 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.00	0.00	0.00	0.00	0.00	0.00
Crane 45 Ton	1	10	0.494	0.135	1.042	0.001	0.059	0.054	4.94	1.35	10.42	0.01	0.59	0.54
Crane 80 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 100 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 300 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 1000 Ton			1.301	0.341	3.422	0.003	0.131	0.120	0.00	0.00	0.00	0.00	0.00	0.00
Drilling Rig Large			0.273	0.081	0.290	0.000	0.025	0.023	0.00	0.00	0.00	0.00	0.00	0.00
Drott 8.5 Ton			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Excavator			0.544	0.165	0.963	0.001	0.090	0.083	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	1	10	0.202	0.085	0.160	0.000	0.019	0.018	2.02	0.85	1.60	0.00	0.19	0.18
Front End Loader			0.370	0.108	0.651	0.001	0.059	0.055	3.70	1.08	6.51	0.01	0.59	0.55
Generator	1	10	0.514	0.156	0.992	0.001	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Light Plants			0.399	0.166	0.379	0.000	0.040	0.036	0.00	0.00	0.00	0.00	0.00	0.00
Manlift			0.201	0.083	0.204	0.000	0.020	0.019	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	1	10	0.313	0.134	0.279	0.000	0.031	0.028	3.13	1.34	2.79	0.00	0.31	0.28
Total Emission Totals	8								22.20	7.14	36.45	0.04	2.98	2.74

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9.8-A.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9.8-C.

* Trucks Emissions factors from SCAQMD CEQA Air Quality Handbook Table 9.8-A, Trucks off highway diesel used for truck-pickup/stake bed.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9.8-A, Emissions for equipment not specifically listed can be found under miscellaneous.

Table A-4
Construction Equipment Emissions

Construction Equipment - Month 3
Phase 1 - Excavation, Site Preparation, Foundations

Equipment Type	Number	Hours Per Day	Emission Factors lb/hr						Daily Emissions (lbs/day) ⁽¹⁾					
			CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5
Backhoe	1	10	0.370	0.108	0.651	0.001	0.069	0.055	3.70	1.08	6.51	0.01	0.59	0.55
Compactor			0.026	0.005	0.033	0.000	0.002	0.002	0.00	0.00	0.00	0.00	0.00	0.00
Compressor	1	10	0.339	0.111	0.651	0.001	0.058	0.053	3.39	1.11	6.51	0.01	0.58	0.53
Concrete Saw			0.068	0.021	0.134	0.000	0.005	0.007	0.00	0.00	0.00	0.00	0.00	0.00
Core Drilling	1	10	0.063	0.012	0.077	0.000	0.005	0.004	0.63	0.12	0.77	0.00	0.05	0.04
Crane 15 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.00	0.00	0.00	0.00	0.00	0.00
Crane 45 Ton	1	10	0.494	0.135	1.042	0.001	0.059	0.054	4.94	1.35	10.42	0.01	0.59	0.54
Crane 80 Ton	1	10	0.776	0.201	1.988	0.002	0.077	0.071	7.76	2.01	19.88	0.02	0.77	0.71
Crane 100 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 300 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 1090 Ton			1.301	0.341	3.422	0.003	0.131	0.120	0.00	0.00	0.00	0.00	0.00	0.00
Drilling Rig Large	1	10	0.273	0.081	0.290	0.000	0.025	0.023	2.73	0.81	2.90	0.00	0.25	0.23
Drott 8.5 Ton			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Excavator			0.544	0.165	0.963	0.001	0.090	0.083	0.00	0.00	0.00	0.00	0.00	0.00
Forklift			0.202	0.085	0.160	0.000	0.019	0.018	0.00	0.00	0.00	0.00	0.00	0.00
Front End Loader			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Generator			0.514	0.156	0.992	0.001	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Light Plants			0.399	0.166	0.379	0.000	0.040	0.036	0.00	0.00	0.00	0.00	0.00	0.00
Manlift			0.201	0.083	0.204	0.000	0.020	0.019	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	1	10	0.313	0.134	0.279	0.000	0.031	0.028	3.13	1.34	2.79	0.00	0.31	0.28
Total Emission Totals	7								26.29	7.83	49.77	0.05	3.14	2.89

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9.8-A.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9.8-A.

* Trucks off highway diesel used for truck-pickups/stake bed.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9.8-A, Emissions for equipment not specifically listed can be found under miscellaneous.

Table 9.8-C, Pounds/hour calculated from load factor and hp rating

Table 9.8-A, Trucks off highway diesel used for truck-pickups/stake bed.

Emissions for equipment not specifically listed can be found under miscellaneous.

Table A-5
Construction Equipment Emissions

Construction Equipment - Month 4
Phase 2 - Construction of Five FGR Compressors and Piping

Equipment Type	Number	Hours Per Day	Emission Factors lb/hr						Daily Emissions (lbs/day) ⁽¹⁾					
			CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5
Backhoe	1	5	0.370	0.108	0.651	0.001	0.059	0.055	1.85	0.54	3.26	0.00	0.30	0.27
Compactor			0.026	0.005	0.033	0.000	0.002	0.002	0.00	0.00	0.00	0.00	0.00	0.00
Compressor	1	10	0.339	0.111	0.651	0.001	0.058	0.063	3.39	1.11	6.51	0.01	0.58	0.53
Concrete Saw			0.068	0.021	0.134	0.000	0.008	0.007	0.00	0.00	0.00	0.00	0.00	0.00
Core Drilling			0.063	0.012	0.077	0.000	0.005	0.004	0.00	0.00	0.00	0.00	0.00	0.00
Crane 15 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.00	0.00	0.00	0.00	0.00	0.00
Crane 45 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.00	0.00	0.00	0.00	0.00	0.00
Crane 80 Ton	1	10	0.776	0.201	1.988	0.002	0.077	0.071	7.76	2.01	19.88	0.02	0.77	0.71
Crane 100 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 300 Ton	1	5	0.776	0.201	1.988	0.002	0.077	0.071	3.88	1.01	9.94	0.01	0.39	0.35
Crane 1000 Ton			1.301	0.341	3.422	0.003	0.131	0.120	0.00	0.00	0.00	0.00	0.00	0.00
Drilling Rig Large	1	10	0.273	0.081	0.290	0.000	0.025	0.023	2.73	0.81	2.90	0.00	0.25	0.23
Drott 8.5 Ton			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Excavator			0.544	0.165	0.963	0.001	0.090	0.083	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	1	10	0.202	0.085	0.160	0.000	0.019	0.018	2.02	0.85	1.60	0.00	0.19	0.18
Front End Loader			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Generator			0.514	0.156	0.992	0.001	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Light Plants	1		0.399	0.166	0.379	0.000	0.040	0.036	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	1	10	0.201	0.083	0.204	0.000	0.020	0.019	2.01	0.83	2.04	0.00	0.20	0.19
Welding Machine	4	10	0.313	0.134	0.279	0.000	0.031	0.028	12.51	5.37	11.17	0.01	1.23	1.13
Total Emission Totals	11								36.17	12.54	57.28	0.06	3.91	3.60

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A.

* Trucks off highway diesel used for truck/pickup/stake bed.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A, Emissions for equipment not specifically listed can be found under miscellaneous.

Table 9-8-C, Pounds/hour calculated from load factor and hp rating.

Table 9-8-A, Trucks off highway diesel used for truck/pickup/stake bed.

Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A, Emissions for equipment not specifically listed can be found under miscellaneous.

Table A-6
Construction Equipment Emissions

Construction Equipment - Months 5 & 6
Phase 2 - Construction of Five FGR Compressors and Piping

Equipment Type	Number	Hours Per Day	Emission Factors lb/hr				Daily Emissions (lbs/day) ⁽¹⁾							
			CO	VOC	NOx	SOx	CO	VOC	NOx	SOx	PM10	PM2.5		
Backhoe			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Compactor			0.026	0.005	0.033	0.000	0.002	0.002	0.00	0.00	0.00	0.00	0.00	0.00
Compressor	1	10	0.339	0.111	0.651	0.001	0.058	0.053	3.39	1.11	6.51	0.01	0.58	0.53
Concrete Saw			0.068	0.021	0.134	0.000	0.008	0.007	0.00	0.00	0.00	0.00	0.00	0.00
Core Drilling			0.063	0.012	0.077	0.000	0.005	0.004	0.00	0.00	0.00	0.00	0.00	0.00
Crane 15 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.00	0.00	0.00	0.00	0.00	0.00
Crane 45 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.00	0.00	0.00	0.00	0.00	0.00
Crane 80 Ton	1	10	0.776	0.201	1.988	0.002	0.077	0.071	7.76	2.01	19.88	0.02	0.77	0.71
Crane 100 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 300 Ton	1	10	0.776	0.201	1.988	0.002	0.077	0.071	7.76	2.01	19.88	0.02	0.77	0.71
Crane 1000 Ton			1.301	0.341	3.422	0.003	0.131	0.120	0.00	0.00	0.00	0.00	0.00	0.00
Drilling Rig Large			0.273	0.081	0.290	0.000	0.025	0.023	0.00	0.00	0.00	0.00	0.00	0.00
Drott 8.5 Ton			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Excavator			0.544	0.165	0.963	0.001	0.090	0.083	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	1	10	0.202	0.085	0.160	0.000	0.019	0.018	2.02	0.85	1.60	0.00	0.19	0.18
Front End Loader			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Generator			0.514	0.156	0.992	0.001	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Light Plants			0.399	0.166	0.379	0.000	0.040	0.036	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	2	10	0.201	0.083	0.204	0.000	0.020	0.019	4.02	1.67	4.07	0.01	0.41	0.37
Welding Machine	8	10	0.313	0.134	0.279	0.000	0.031	0.028	25.02	10.75	22.34	0.03	2.46	2.27
Total Emission Totals	14								49.99	18.40	74.28	0.07	5.18	4.77

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-C.

* Trucks Emissions factors from SCAQMD CEQA Air Quality Handbook Table 9-8-A, Trucks off highway diesel used for truck pickup/stake bed.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A, Emissions for equipment not specifically listed can be found under miscellaneous.

Table 9-8-C, Pounds/hour calculated from load factor and hp rating.

Table A-7
Construction Equipment Emissions

Phase 2/3 Construction of Five FGR Compressors and Piping/Retray Amine Absorber
Construction Equipment - Months 7 & 8

Equipment Type	Number	Hours Per Day	Emission Factors lb/hr			Daily Emissions (lbs/day) ⁽¹⁾								
			CO	VOC	NOx	SOx	CO	VOC	NOx	SOx	PM10	PM2.5		
Backhoe			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Compactor			0.026	0.005	0.033	0.000	0.002	0.002	0.00	0.00	0.00	0.00	0.00	0.00
Compressor	2	10	0.339	0.111	0.651	0.001	0.068	0.063	6.79	2.22	13.01	0.01	1.16	1.06
Concrete Saw			0.068	0.021	0.134	0.000	0.008	0.007	0.00	0.00	0.00	0.00	0.00	0.00
Core Drilling			0.063	0.012	0.077	0.000	0.005	0.004	0.00	0.00	0.00	0.00	0.00	0.00
Crane 15 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.00	0.00	0.00	0.00	0.00	0.00
Crane 45 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.00	0.00	0.00	0.00	0.00	0.00
Crane 80 Ton			0.776	0.201	1.988	0.002	0.077	0.071	7.76	2.01	19.88	0.02	0.77	0.71
Crane 100 Ton	1	10	0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 300 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Crane 1000 Ton			1.301	0.341	3.422	0.003	0.131	0.120	0.00	0.00	0.00	0.00	0.00	0.00
Drilling Rig Large			0.273	0.081	0.290	0.000	0.025	0.023	0.00	0.00	0.00	0.00	0.00	0.00
Drott 8.5 Ton			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Excavator			0.544	0.165	0.963	0.001	0.090	0.083	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	1	10	0.202	0.085	0.160	0.000	0.019	0.018	2.02	0.85	1.60	0.00	0.19	0.18
Front End Loader			0.370	0.108	0.651	0.001	0.059	0.055	0.00	0.00	0.00	0.00	0.00	0.00
Generator			0.514	0.156	0.992	0.001	0.077	0.071	0.00	0.00	0.00	0.00	0.00	0.00
Light Plants			0.399	0.166	0.379	0.000	0.040	0.036	0.00	0.00	0.00	0.00	0.00	0.00
Lift	3	10	0.201	0.083	0.204	0.000	0.020	0.019	6.03	2.50	6.11	0.01	0.61	0.56
Welding Machine	8	10	0.313	0.134	0.279	0.000	0.031	0.028	25.02	10.75	22.34	0.03	2.46	2.27
Total Emission Totals	15								47.63	18.33	62.94	0.07	5.19	4.78

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-B-A.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-B-C.

* Trucks Emissions factors from SCAQMD CEQA Air Quality Handbook Table 9-B-A, Trucks off highway diesel used for truck pickup/stake bed.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-B-A, Emissions for equipment not specifically listed can be found under miscellaneous.

Table 9-B-C, Pounds/hour calculated from load factor and hp rating.

Table 9-B-A, Trucks off highway diesel used for truck pickup/stake bed.

Table A-8
Construction Equipment Emissions

Construction Equipment - Month 9
Phase 3/4 - Retray Amine Absorber/Piping Tie-ins

Equipment Type	Number	Hours Per Day	Emission Factors lb/hr				Daily Emissions (lbs/day) ⁽¹⁾							
			CO	VOC	NOx	SOx	CO	VOC	NOx	SOx	PM10	PM2.5		
Backhoe			0.370	0.108	0.651	0.001	0.059	0.055	0.000	0.000	0.000	0.000	0.000	0.000
Compactor			0.026	0.005	0.033	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000
Compressor	1	10	0.339	0.111	0.651	0.001	0.058	0.053	0.000	1.11	6.51	0.01	0.58	0.53
Concrete Saw			0.068	0.021	0.134	0.000	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000
Core Drilling			0.063	0.012	0.077	0.000	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000
Crane 15 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.000	0.000	0.000	0.000	0.000	0.000
Crane 45 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.000	0.000	0.000	0.000	0.000	0.000
Crane 80 Ton	1	10	0.776	0.201	1.988	0.002	0.077	0.071	0.000	19.88	0.02	0.77	0.71	0.71
Crane 100 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.000	0.000	0.000	0.000	0.000	0.000
Crane 300 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.000	0.000	0.000	0.000	0.000	0.000
Crane 1000 Ton			1.301	0.341	3.422	0.003	0.131	0.120	0.000	0.000	0.000	0.000	0.000	0.000
Drilling Rig Large			0.273	0.081	0.290	0.000	0.025	0.023	0.000	0.000	0.000	0.000	0.000	0.000
Drott 8.5 Ton			0.370	0.108	0.651	0.001	0.059	0.055	0.000	0.000	0.000	0.000	0.000	0.000
Excavator			0.544	0.165	0.963	0.001	0.090	0.083	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	1	10	0.202	0.085	0.160	0.000	0.019	0.018	0.000	2.02	0.85	1.60	0.19	0.18
Front End Loader			0.370	0.108	0.651	0.001	0.059	0.055	0.000	0.000	0.000	0.000	0.000	0.000
Generator			0.514	0.156	0.992	0.001	0.077	0.071	0.000	0.000	0.000	0.000	0.000	0.000
Light Plants			0.399	0.166	0.379	0.000	0.040	0.036	0.000	0.000	0.000	0.000	0.000	0.000
Manlift	3	10	0.201	0.083	0.204	0.000	0.020	0.019	0.000	6.03	2.50	6.11	0.61	0.56
Welding Machine	6	10	0.313	0.134	0.279	0.000	0.031	0.028	0.000	18.77	8.06	16.75	1.85	1.70
Total Emission Totals	12									37.98	14.53	50.85	4.00	3.68

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A.

* Trucks off highway diesel used for truck/pickup/stake bed.

* Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A, Emissions for equipment not specifically listed can be found under miscellaneous.

Table 9-8-C, Pounds/hour calculated from load factor and hp rating.

Table 9-8-A, Trucks off highway diesel used for truck/pickup/stake bed.

Emissions factors from SCAQMD CEQA Air Quality Handbook, Table 9-8-A, Emissions for equipment not specifically listed can be found under miscellaneous.

Table A-9
Construction Equipment Emissions

Construction Equipment - Months 10 & 11
Phase 4 - Piping Tie-ins

Equipment Type	Number	Hours Per Day	Emission Factors lb/hr			Daily Emissions (lbs/day) ⁽¹⁾								
			CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5
Backhoe			0.370	0.108	0.651	0.001	0.059	0.065	0.000	0.000	0.000	0.000	0.000	0.000
Compactor			0.026	0.005	0.033	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000
Compressor	1	10	0.339	0.111	0.651	0.001	0.068	0.063	0.000	3.39	1.11	6.51	0.01	0.58
Concrete Saw			0.068	0.021	0.134	0.000	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000
Core Drilling			0.063	0.012	0.077	0.000	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000
Crane 15 Ton			0.494	0.135	1.042	0.001	0.059	0.054	0.000	0.000	0.000	0.000	0.000	0.000
Crane 45 Ton	1	10	0.494	0.135	1.042	0.001	0.059	0.054	0.000	4.94	1.35	10.42	0.01	0.59
Crane 80 Ton	1	10	0.776	0.201	1.988	0.002	0.077	0.071	0.000	7.76	2.01	19.88	0.02	0.77
Crane 100 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.000	0.000	0.000	0.000	0.000	0.000
Crane 300 Ton			0.776	0.201	1.988	0.002	0.077	0.071	0.000	0.000	0.000	0.000	0.000	0.000
Crane 1000 Ton			1.301	0.341	3.422	0.003	0.131	0.120	0.000	0.000	0.000	0.000	0.000	0.000
Drilling Rig Large			0.273	0.081	0.290	0.000	0.025	0.023	0.000	0.000	0.000	0.000	0.000	0.000
Drott 8.5 Ton			0.370	0.108	0.651	0.001	0.059	0.055	0.000	0.000	0.000	0.000	0.000	0.000
Excavator			0.544	0.165	0.963	0.001	0.090	0.083	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	1	10	0.202	0.085	0.160	0.000	0.019	0.018	0.000	2.02	0.85	1.60	0.00	0.19
Front End Loader			0.370	0.108	0.651	0.001	0.059	0.065	0.000	0.000	0.000	0.000	0.000	0.000
Generator			0.514	0.156	0.992	0.001	0.077	0.071	0.000	0.000	0.000	0.000	0.000	0.000
Light Plants			0.399	0.166	0.379	0.000	0.040	0.036	0.000	0.000	0.000	0.000	0.000	0.000
Manlift	3	10	0.201	0.083	0.204	0.000	0.020	0.019	0.000	6.03	2.50	6.11	0.01	0.61
Welding Machine	4	10	0.313	0.134	0.279	0.000	0.031	0.028	0.000	12.51	5.37	11.17	0.01	1.23
Total Emission Totals	11									36.66	13.19	55.68	0.06	3.97

¹ Emissions factors from SCAGMD CEQA Air Quality Handbook, Table 9.8-A.

² Emissions factors from SCAGMD CEQA Air Quality Handbook, Table 9.8-C.

³ Trucks Emissions factors from SCAGMD CEQA Air Quality Handbook Table 9.8-A. Trucks off highway diesel used for truck pickup/stake bed.

⁴ Emissions factors from SCAGMD CEQA Air Quality Handbook, Table 9.8-A. Emissions for equipment not specifically listed can be found under miscellaneous.

Table 9.8-C, Pounds/hour calculated from load factor and hp rating.

Table 9.8-A, Trucks off highway diesel used for truck pickup/stake bed.

**Table A-10
On-site/Off-site Construction Vehicle Emissions - Month 1**

On Road Mobile Emission Factors from CARB EMFAC2007 Scenario Year 2008 (2007-2026, www.agmd.gov/ceqa/handbook/onroad/EF07_26.xls)

Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emission Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile) ⁽¹⁾
Construction Workers						
Commuting	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Pickup Trucks	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Stakebed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Flatbed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Bus	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Concrete/Dump	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Delivery Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933

Source	Parameters			Peak Day Emissions, lbs/day ⁽²⁾						
	Number of Vehicles per Day	Trips per Day per Vehicle	Distance Traveled per Trip	Distance Traveled per Day	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	PM2.5 Emissions
Construction Workers										
Commuting	10	2	16.2	324.0	3.42	0.35	0.36	0.00	0.03	0.02
Pickup Trucks	4	1	30.0	120.0	1.27	0.13	0.13	0.00	0.01	0.01
Stakebed Trucks	1	1	30.0	30.0	0.66	0.09	0.71	0.00	0.03	0.02
Flatbed Trucks	1	1	10.0	10.0	0.22	0.03	0.24	0.00	0.01	0.01
Bus	0	1	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Dump/Concrete Truck	2	2	30.0	120.0	2.63	0.36	2.85	0.00	0.10	0.09
Delivery Trucks	2	2	30	120	2.63	0.36	2.85	0.00	0.10	0.09
Totals					10.83	1.32	7.13	0.01	0.28	0.23

(1) https://www.agmd.gov/ceqa/handbook/PM2.5/pm2_5ratio.xls : Profile ID #394.

(2) Peak Day Emissions = Emission Factor x Distance Travelled per Day

**Table A-11
On-site/Off-site Construction Vehicle Emissions - Month 2**

On Road Mobile Emission Factors from CARB EMFAC2007 Scenario Year 2008 (2007-2026, www.aqmd.gov/ceqa/handbook/onroadEF07_26.xls)

Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emission Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile) ⁽¹⁾
Construction Workers						
Commuting	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Pickup Trucks	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Stakebed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.000085607	0.00073933
Flatbed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.000085607	0.00073933
Bus	0.02194915	0.00299270	0.02371258	0.00002565	0.000085607	0.00073933
Concrete/Dump	0.02194915	0.00299270	0.02371258	0.00002565	0.000085607	0.00073933
Delivery Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.000085607	0.00073933

Source	Parameters			Peak Day Emissions, lbs/day ⁽²⁾						
	Number of Vehicles per Day	Trips per Day per Vehicle	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	PM2.5 Emissions	
Construction Workers										
Commuting	10	2	16.2	3.42	0.35	0.36	0.00	0.03	0.02	
Pickup Trucks	4	1	30.0	1.27	0.13	0.13	0.00	0.01	0.01	
Stakebed Trucks	1	1	30.0	0.66	0.09	0.71	0.00	0.03	0.02	
Flatbed Trucks	1	1	10.0	0.22	0.03	0.24	0.00	0.01	0.01	
Bus	0	1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	
Dump/Concrete Truck	3	2	30.0	3.95	0.54	4.27	0.00	0.15	0.13	
Delivery Trucks	2	2	30	2.63	0.36	2.85	0.00	0.10	0.09	
Totals				12.15	1.50	8.55	0.01	0.33	0.27	

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls ; Profile ID #394.

(2) Peak Day Emissions = Emission Factor x Distance Travelled per Day

**Table A-12
On-site/Off-site Construction Vehicle Emissions - Month 3**

On Road Mobile Emission Factors from CARB EMFAC2007 Scenario Year 2008 (2007-2026, www.aqmd.gov/ceqa/handbook/onroadEF07_26.xls)										
Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emission Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile) ⁽¹⁾				
							Peak Day Emissions, lbs/day ⁽²⁾			
Source	Number of Vehicles per Day	Trips per Day per Vehicle	Distance Traveled per Trip	Distance Traveled per Day	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	PM2.5 Emissions
Construction Workers	25	2	16.2	810.0	8.54	0.87	0.89	0.01	0.07	0.04
Commuting	6	1	30.0	180.0	1.90	0.19	0.20	0.00	0.02	0.01
Pickup Trucks	1	1	30.0	30.0	0.66	0.09	0.71	0.00	0.03	0.02
Stakebed Trucks	2	1	10.0	20.0	0.44	0.06	0.47	0.00	0.02	0.01
Flatbed Trucks	0	1	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Bus	3	2	30.0	180.0	3.95	0.54	4.27	0.00	0.15	0.13
Dump/Concrete Truck	2	2	30	120	2.63	0.36	2.85	0.00	0.10	0.09
Delivery Trucks					18.13	2.12	9.39	0.02	0.38	0.31
Totals										

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls ; Profile ID #394.

(2) Peak Day Emissions = Emission Factor x Distance Travelled per Day

**Table A-13
On-site/Off-site Construction Vehicle Emissions - Month 4**

On Road Mobile Emission Factors from CARB EMFAC2007 Scenario Year 2008 (2007-2026, www.aqmd.gov/ceqa/handbook/onroadEF07_26.xls)

Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emission Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile) ⁽¹⁾
Construction Workers						
Commuting	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Pickup Trucks	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Stakebed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Flatbed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Bus	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Concrete/Dump	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Delivery Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933

Source	Parameters			Peak Day Emissions, lbs/day ⁽²⁾						
	Number of Vehicles per Day	Trips per Day per Vehicle	Distance Traveled per Trip	Distance Traveled per Day	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	PM2.5 Emissions
Construction Workers										
Commuting	50	2	16.2	1620.0	17.09	1.75	1.79	0.02	0.14	0.09
Pickup Trucks	7	1	30.0	210.0	2.22	0.23	0.23	0.00	0.02	0.01
Stakebed Trucks	1	1	30.0	30.0	0.66	0.09	0.71	0.00	0.03	0.02
Flatbed Trucks	1	1	10.0	10.0	0.22	0.03	0.24	0.00	0.01	0.01
Bus	0	1	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Dump/Concrete Truck	1	2	30.0	60.0	1.32	0.18	1.42	0.00	0.05	0.04
Delivery Trucks	2	2	30	120	2.63	0.36	2.85	0.00	0.10	0.09
Totals					24.13	2.63	7.24	0.03	0.34	0.26

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls ; Profile ID #394.

(2) Peak Day Emissions = Emission Factor x Distance Travelled per Day

**Table A-14
On-site/Off-site Construction Vehicle Emissions - Months 5/6**

On Road Mobile Emission Factors from CARB EMFAC2007 Scenario Year 2008 (2007-2026, www.aqmd.gov/ceqa/handbook/onroad/EF07_26.xls)

Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emission Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile) ⁽¹⁾
Construction Workers						
Commuting	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Pickup Trucks	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Stakebed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Flatbed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Bus	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Concrete/Dump	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Delivery Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933

Source	Parameters			Peak Day Emissions, lbs/day ⁽²⁾					
	Number of Vehicles per Day	Trips per Day per Vehicle	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	PM2.5 Emissions
Construction Workers									
Commuting	60	2	16.2	20.51	2.10	2.14	0.02	0.17	0.10
Pickup Trucks	8	1	30.0	2.53	0.26	0.26	0.00	0.02	0.01
Stakebed Trucks	3	1	30.0	1.98	0.27	2.13	0.00	0.08	0.07
Flatbed Trucks	2	1	10.0	0.44	0.06	0.47	0.00	0.02	0.01
Bus	0	1	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Dump/Concrete Truck	1	2	30.0	1.32	0.18	1.42	0.00	0.05	0.04
Delivery Trucks	3	2	30	3.95	0.54	4.27	0.00	0.15	0.13
Totals				30.72	3.40	10.71	0.03	0.49	0.37

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls ; Profile ID #394.

(2) Peak Day Emissions = Emission Factor x Distance Travelled per Day

**Table A-15
On-site/Off-site Construction Vehicle Emissions - Months 7/8**

On Road Mobile Emission Factors from CARB EMFAC2007 Scenario Year 2008 (2007-2026, www.aqmd.gov/ceqa/handbook/onroadEF07_26.xls)

Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emission Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile) ⁽¹⁾
Construction Workers						
Commuting	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Pickup Trucks	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Stakebed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Flatbed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Bus	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Concrete/Dump	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Delivery Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933

Source	Parameters			Peak Day Emissions, lbs/day ⁽²⁾						
	Number of Vehicles per Day	Trips per Day per Vehicle	Distance Traveled per Trip	Distance Traveled per Day	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	PM2.5 Emissions
Construction Workers										
Commuting	75	2	16.2	2430.0	25.63	2.62	2.68	0.03	0.21	0.13
Pickup Trucks	8	1	30.0	240.0	2.53	0.26	0.26	0.00	0.02	0.01
Stakebed Trucks	3	1	30.0	90.0	1.98	0.27	2.13	0.00	0.08	0.07
Flatbed Trucks	2	1	10.0	20.0	0.44	0.06	0.47	0.00	0.02	0.01
Bus	0	1	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Dump/Concrete Truck	1	2	30.0	60.0	1.32	0.18	1.42	0.00	0.05	0.04
Delivery Trucks	3	2	30	180	3.95	0.54	4.27	0.00	0.15	0.13
Totals					35.85	3.93	11.24	0.04	0.53	0.40

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls ; Profile ID #394.

(2) Peak Day Emissions = Emission Factor x Distance Travelled per Day

**Table A-16
On-site/Off-site Construction Vehicle Emissions - Month 9**

On Road Mobile Emission Factors from CARB EMFAC2007 Scenario Year 2008 (2007-2026, www.aqmd.gov/ceqa/handbook/onroadEF07_26.xls)

Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emission Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile) ⁽¹⁾
Construction Workers						
Commuting	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Pickup Trucks	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Stakebed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Flatbed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Bus	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Concrete/Dump	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Delivery Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933

Source	Parameters			Peak Day Emissions, lbs/day ⁽²⁾					
	Number of Vehicles per Day	Trips per Day per Vehicle	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	PM2.5 Emissions
Construction Workers									
Commuting	65	2	16.2	22.22	2.27	2.32	0.02	0.18	0.11
Pickup Trucks	8	1	30.0	2.53	0.26	0.26	0.00	0.02	0.01
Stakebed Trucks	2	1	30.0	1.32	0.18	1.42	0.00	0.05	0.04
Flatbed Trucks	2	1	10.0	0.44	0.06	0.47	0.00	0.02	0.01
Bus	0	1	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Dump/Concrete Truck	1	2	30.0	1.32	0.18	1.42	0.00	0.05	0.04
Delivery Trucks	2	2	30	2.63	0.36	2.85	0.00	0.10	0.09
Totals				30.45	3.31	8.75	0.03	0.42	0.32

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls ; Profile ID #394.

(2) Peak Day Emissions = Emission Factor x Distance Travelled per Day

**Table A-17
On-site/Off-site Construction Vehicle Emissions - Months 10/11**

On Road Mobile Emission Factors from CARB EMFAC2007 Scenario Year 2008 (2007-2026, www.aqmd.gov/ceqa/handbook/onroadEF07_26.xls)

Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emission Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile) ⁽¹⁾
Construction Workers						
Commuting	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Pickup Trucks	0.01054844	0.00107919	0.00110288	0.00001075	0.00008505	0.00005293
Stakebed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Flatbed Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Bus	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Concrete/Dump	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933
Delivery Trucks	0.02194915	0.00299270	0.02371258	0.00002565	0.00085607	0.00073933

Source	Parameters			Peak Day Emissions, lbs/day ⁽²⁾						
	Number of Vehicles per Day	Trips per Day per Vehicle	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	PM2.5 Emissions	
Construction Workers										
Commuting	50	2	16.2	17.09	1.75	1.79	0.02	0.14	0.09	
Pickup Trucks	6	1	30.0	1.90	0.19	0.20	0.00	0.02	0.01	
Stakebed Trucks	2	1	30.0	1.32	0.18	1.42	0.00	0.05	0.04	
Flatbed Trucks	2	1	10.0	0.44	0.06	0.47	0.00	0.02	0.01	
Bus	0	1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	
Dump/Concrete Truck	1	2	30.0	1.32	0.18	1.42	0.00	0.05	0.04	
Delivery Trucks	2	2	30	2.63	0.36	2.85	0.00	0.10	0.09	
Totals				24.69	2.72	8.15	0.03	0.38	0.29	

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #394.

(2) Peak Day Emissions = Emission Factor x Distance Travelled per Day

**Table A-18
Fugitive PM Construction Emissions for Demolition (Month 1)**

Activity	Average Pieces of Equipment Operating	Peak Pieces of Equipment Operating	Hours of Operation	PM10 Emission Factor (lb/hour)	Water Control Factor	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source
						Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	
Grading Operations Construction Activities ⁽¹⁾	1	1	10	5.837	0.5	29.19	29.19	58.37288585	58.37288585	Table A9-9-F
TRENCHING OPERATIONS (Backhoe)										
Average Tons of Materials Handled Per Day	94.5	94.5	94.5	0.0035	0.5	0.165375	0.165375	0.33075	0.33075	Table A9-9-G
Peak Tons of Materials Handled Per Day	94.5	94.5	94.5	0.0035	0.5	0.165375	0.165375	0.33075	0.33075	Table A9-9-G
PM10 Emission Factor (lb/ton)										
Water Control Factor										
TEMPORARY STOCKPILES										
Construction Activities ⁽²⁾	18	18	1	1	0.200	0.200	0.200	0.002	0.002	Table A9-9-E
Days of Construction	18	18	1	1	0.200	0.200	0.200	0.002	0.002	Table A9-9-E
Area and Temporary Stockpiles										
Average Acres Disturbed Per Day										
Peak Acres Disturbed Per Day										
PM10 Emission Factor (lb/day/acre)										
Water Control Factor										
TRUCK FILLING/DUMPING										
Estimated Materials Handled Per Day (tons)	94.5	94.5	94.5	0.02205	0.5	1.0418625	1.0418625	2.083725	2.083725	Table A9-9
Days of Construction	94.5	94.5	94.5	0.009075	0.5	0.42879375	0.42879375	0.8575875	0.8575875	Table A9-9
Peak Tons of Materials Handled Per Day	94.5	94.5	94.5	0.009075	0.5	0.42879375	0.42879375	0.8575875	0.8575875	Table A9-9
PM10 Emission Factor (lb/ton)										
Water Control Factor										
Summary Table										
TOTAL PM Pounds/day				PM10		PM2.5 ⁽⁶⁾				
(Controlled Emissions)	31.0220	31.0220	31.0220	17.9928	17.9928	17.9928	17.9928	17.9928	17.9928	
(Uncontrolled Emissions)	61.844	61.844	61.844	35.870	35.870	35.870	35.870	35.870	35.870	
Mitigated Emissions ⁽⁵⁾	21.027	21.027	21.027	12.196	12.196	12.196	12.196	12.196	12.196	

TOTAL PM Pounds/day	PM10		PM2.5 ⁽⁶⁾	
	Average	Peak	Average	Peak
(Controlled Emissions)	31.0220	31.0220	17.9928	17.9928
(Uncontrolled Emissions)	61.844	61.844	35.870	35.870
Mitigated Emissions ⁽⁵⁾	21.027	21.027	12.196	12.196

(1) Emissions (lbs/hr) = $[0.75 \times (G^{1.5}) / (H^{1.4})] \times J$
 where G = silt content (7.5%), H = moisture content (2.0%) and J = hrs of operation (EPA AP-42 Table 11.9-1 for bulldozing overburden).
 (2) Emissions (lbs/ton) = $0.00112 \times [(G/5)^2 / (H/2)^{1.4}] \times I/J$
 where G = mean wind speed (12 mph), H = moisture content of surface material (2%), I = lbs of dirt handled per day, and J = 2,000 lbs/ton
 (3) Emissions (lbs/day/acre) = $1.7 \times [(G/1.5)^2 / (365-H)/236] \times I/15 \times J$
 where G = silt content (7.5%), H = days with >0.01 inch of rain (34); I = percentage of time wind speed exceeds 12 mph (50%) and J = fraction of TSP (0.5)
 (4) Used SCAQMD Table 9-9 Default emission factors.
 (5) Mitigated Emissions assume that watering 3 times per day controls emissions by 66 percent (Uncontrolled Emissions x 0.34)
 (6) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls; Profile ID #391.

**Table A-19
Fugitive PM Construction Emissions for Demolition (Month 2)**

Activity	Average Pieces of Equipment Operating	Peak Pieces of Equipment Operating	Hours of Operation	PM10 Emission Factor (lb/hour)	Water Control Factor	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source
						Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	
Grading Operations	1	1	10	5.837	0.5	29.19	29.19	58.37288585	58.37288585	Table A9-9-F
Construction Activities ⁽¹⁾										
TRENCHING OPERATIONS (Backhoe)										
Average Tons of Materials Handled Per Day	94.5	94.5	94.5	0.0035	0.5	0.165375	0.165375	0.33075	0.33075	Table A9-9-G
Peak Tons of Materials Handled Per Day										
PM10 Emission Factor (lb/ton)										
Water Control Factor										
TEMPORARY STOCKPILES										
Construction Activities ⁽²⁾										
Average Tons of Materials Handled Per Day	94.5	94.5	94.5	0.0035	0.5	0.165375	0.165375	0.33075	0.33075	Table A9-9-G
Peak Tons of Materials Handled Per Day										
PM10 Emission Factor (lb/ton)										
Water Control Factor										
WIND EROSION Disturbed Area and Temporary Stockpiles										
Days of Construction	18	18	18							
Average Acreage Disturbed Per Day	1	1	1							
Peak Acreage Disturbed Per Day										
PM10 Emission Factor (lb/day/acre)										
TRUCK FILLING/DUMPING										
Estimated Materials Handled Per Day (tons)	94.5	94.5	94.5	0.02205	0.5	1.0418625	1.0418625	2.083725	2.083725	Table A9-9-E
Peak Tons of Materials Handled Per Day	94.5	94.5	94.5	0.009075	0.5	0.42879375	0.42879375	0.8575875	0.8575875	Table A9-9-E
PM10 Emission Factor (lb/ton)										
Water Control Factor										
TRUCK DUMPING										
Estimated Materials Handled Per Day (tons)	94.5	94.5	94.5	0.02205	0.5	1.0418625	1.0418625	2.083725	2.083725	Table A9-9-E
Peak Tons of Materials Handled Per Day	94.5	94.5	94.5	0.009075	0.5	0.42879375	0.42879375	0.8575875	0.8575875	Table A9-9-E
PM10 Emission Factor (lb/ton)										
Water Control Factor										

Assumptions: 1cubic yard trench spoils = 1 ton

TOTAL PM Pounds/day	PM10		PM2.5 ⁽⁶⁾	
	Average	Peak	Average	Peak
(Controlled Emissions)	31.0220	31.0220	17.9928	17.9927
(Uncontrolled Emissions)	61.844	61.844	35.870	35.870
Mitigated Emissions ⁽⁵⁾	21.027	21.027	12.196	12.196

(1) Emissions (lbs/hr) = $[0.75 \times (G^{1.5}) / (H^{1.4})] \times J$
 where G = silt content (7.5%), H = moisture content (2.0%), and J = hrs of operation (EPA AP-42 Table 11.9-1 for bulldozing overburden)

(2) Emissions (lbs/ton) = $0.00112 \times [(G/6)^{1.3} / (H/2)^{1.4}] \times I/J$
 where G=mean wind speed (12 mph), H=moisture content of surface material (2%), I=lbs of dirt handled per day, and J=2,000 lbs/ton

(3) Emissions (lbs/day/acre) = $1.7 \times [(G/1.5)^{1.3} / (365-H)/235] \times I/15 \times J$
 where G = silt content (7.5%), H = days with >0.01 inch of rain (34); I = percentage of time wind speed exceeds 12 mph (50%) and J= fraction of TSP (0.5)

(4) Used SCAQMD Table 9.9 Default emission factors.

(5) Mitigated Emissions assume that watering 3 times per day controls emissions by 66 percent (Uncontrolled Emissions x 0.34)

(6) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls ; Profile ID #391.

**Table A-20
Fugitive PM Construction Emissions for Demolition (Month 3)**

Activity	Average Pieces of Equipment Operating	Peak Pieces of Equipment Operating	Hours of Operation	PM10 Emission Factor (lb/hour)	Water Control Factor	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source
						Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	
Grading Operations Construction Activities ⁽¹⁾	1	1	10	5.837	0.5	29.19	29.19	58.37288585	58.37288585	Table A9-9-F
TRENCHING OPERATIONS (Backhoe)										
Average Tons of Materials Handled Per Day	94.5	94.5	0.0035	0.5	0.165375	0.165375	0.33075	0.33075	0.33075	Table A9-9-G
Peak Tons of Materials Handled Per Day	94.5	94.5	0.0035	0.5	0.165375	0.165375	0.33075	0.33075	0.33075	Table A9-9-G
PM10 Emission Factor (lb/ton)										
Water Control Factor										
TEMPORARY STOCKPILES										
Construction Activities ⁽²⁾	94.5	94.5	0.0035	0.5	0.165375	0.165375	0.33075	0.33075	0.33075	Table A9-9-G
Assumptions: 7cubic yard trench spoils = 1 ton										
WIND EROSION Disturbed Area and Temporary Stockpiles										
Days of Construction	18	1	1	0.200	0.200	0.200	0.200	0.002	0.002	Table A9-9-E
Average Acres Disturbed Per Day	1	1	1	0.200	0.200	0.200	0.200	0.002	0.002	Table A9-9-E
Peak Acres Disturbed Per Day	1	1	1	0.200	0.200	0.200	0.200	0.002	0.002	Table A9-9-E
PM10 Emission Factor (lb/day/acre)										
TRUCK FILLING/DUMPING										
Estimated Materials Handled Per Day (tons)	94.5	94.5	0.02205	0.5	1.0418625	1.0418625	2.083725	2.083725	2.083725	Table A9-9
Peak Tons of Materials Handled Per Day	94.5	94.5	0.009075	0.5	0.42879375	0.42879375	0.8575875	0.8575875	0.8575875	Table A9-9
PM10 Emission Factor (lb/ton)										
Water Control Factor										
TRUCK FILLING/DUMPING										
Truck Filling ⁽⁴⁾	94.5	94.5	0.02205	0.5	1.0418625	1.0418625	2.083725	2.083725	2.083725	Table A9-9
Truck Dumping	94.5	94.5	0.009075	0.5	0.42879375	0.42879375	0.8575875	0.8575875	0.8575875	Table A9-9

TOTAL PM Pounds/day (Controlled Emissions) (Uncontrolled Emissions)	PM10		PM2.5 ⁽⁵⁾	
	Average	Peak	Average	Peak
	31.0220	31.0220	17.9928	17.99277
	61.844	61.844	35.870	35.870
Mitigated Emissions ⁽⁵⁾	21.027	21.027	12.196	12.196

(1) Emissions (lbs/hr) = $[0.75 \times (G^{1.5}) / (H^{1.4})] \times J$
 where G = silt content (7.5%), H = moisture content (2.0%), and J = hrs of operation (EPA AP-42 Table 11.9-1 for bulldozing overburden)
 (2) Emissions (lbs/ton) = $0.00112 \times [(G/5)^{1.5} / (H/2)^{1.4}] \times I/J$
 where G=mean wind speed (12 mph), H=moisture content of surface material (2%), I=lbs of dirt handled per day, and J=2,000 lbs/ton
 (3) Emissions (lbs/day/acre) = $1.7 \times [(G/1.5)^{1.5} / (365-H)/235] \times I/15 \times J$
 where G = silt content (7.5%); H = days with >0.01 inch of rain (34); I = percentage of time wind speed exceeds 12 mph (50%) and J= fraction of TSP (0.5)
 (4) Used SCAQMD Table 9-9 Default emission factors.
 (5) Mitigated Emissions assume that watering 3 times per day controls emissions by 66 percent (Uncontrolled Emissions x 0.34)
 (6) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #391.

Table A-21

**Fugitive Dust Construction Emission Estimates
From Trucks and Employee Vehicles - Month 1**

Source Type	Number	Fuel	Peak Daily Trips	One-way Distance	Emission Factor ⁽¹⁾ (lb/vmt)	Peak PM-10 (lbs/day)	Peak PM-2.5 ⁽²⁾ (lbs/day)
Passenger Vehicle/ On Paved Roadways	10	Gasoline	2	16.2	0.000386	0.13	0.03
On-site cars	0	Gasoline	1	2.5	0.000386	0.00	0.00
Light Duty Trucks on Paved Roadways	4	Gasoline	1	30	0.00213	0.26	0.05
Buses	0	Diesel	1	2.5	0.02013	0.00	0.00
Trucks on Paved Roadways	4	Diesel	2	30	0.02013	4.83	1.01
Trucks on Paved Roadways - Onsite	2	Diesel	2	5	0.02013	0.40	0.08
Total	20					5.61	1.18

(1) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m2) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #394.

Table A-22

Fugitive Dust Construction Emission Estimates
From Trucks and Employee Vehicles - Month 2

Source Type	Number	Fuel	Peak Daily Trips	One-way Distance	Emission Factor ⁽¹⁾ (lb/vmt)	Peak PM-10 (lbs/day)	Peak PM-2.5 ⁽²⁾ (lbs/day)
Passenger Vehicle/ On Paved Roadways	10	Gasoline	2	16.2	0.000386	0.13	0.03
On-site cars	0	Gasoline	1	2.5	0.000386	0.00	0.00
Light Duty Trucks on Paved Roadways	4	Gasoline	1	30	0.00213	0.26	0.05
Buses	0	Diesel	1	2.5	0.02013	0.00	0.00
Trucks on Paved Roadways	5	Diesel	2	30	0.02013	6.04	1.27
Trucks on Paved Roadways - Onsite	2	Diesel	2	5	0.02013	0.40	0.08
Total	21					6.82	1.43

(1) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m²) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #394.

Table A-23

**Fugitive Dust Construction Emission Estimates
From Trucks and Employee Vehicles - Month 3**

Source Type	Number	Fuel	Peak Daily Trips	One-way Distance	Emission Factor ⁽¹⁾ (lb/vmt)	Peak PM-10 (lbs/day)	Peak PM-2.5 ⁽²⁾ (lbs/day)
Passenger Vehicle/ On Paved Roadways	25	Gasoline	2	16.2	0.000386	0.31	0.07
On-site cars	0	Gasoline	1	2.5	0.000386	0.00	0.00
Light Duty Trucks on Paved Roadways	6	Gasoline	1	30	0.00213	0.38	0.08
Buses	0	Diesel	1	2.5	0.02013	0.00	0.00
Trucks on Paved Roadways	5	Diesel	2	30	0.02013	6.04	1.27
Trucks on Paved Roadways - Onsite	3	Diesel	2	5	0.02013	0.60	0.13
Total	39					7.34	1.54

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(1) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m2) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #394.

Table A-24

Fugitive Dust Construction Emission Estimates
From Trucks and Employee Vehicles - Month 4

Source Type	Number	Fuel	Peak Daily Trips	One-way Distance	Emission Factor ⁽¹⁾ (lb/vmt)	Peak PM-10 (lbs/day)	Peak PM-2.5 ⁽²⁾ (lbs/day)
Passenger Vehicle/ On Paved Roadways	50	Gasoline	2	16.2	0.000386	0.63	0.13
On-site cars	0	Gasoline	1	2.5	0.000386	0.00	0.00
Light Duty Trucks on Paved Roadways	7	Gasoline	1	30	0.00213	0.45	0.09
Buses	0	Diesel	1	2.5	0.02013	0.00	0.00
Trucks on Paved Roadways	3	Diesel	2	30	0.02013	3.62	0.76
Trucks on Paved Roadways - Onsite	3	Diesel	2	5	0.02013	0.60	0.13
Total	63					5.30	1.11

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(1) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m²) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #394.

Table A-25

Fugitive Dust Construction Emission Estimates
From Trucks and Employee Vehicles - Months 5/6

Source Type	Number	Fuel	Peak Daily Trips	One-way Distance	Emission Factor ⁽¹⁾ (lb/vmt)	Peak PM-10 (lbs/day)	Peak PM-2.5 ⁽²⁾ (lbs/day)
Passenger Vehicle/ On Paved Roadways	60	Gasoline	2	16.2	0.000386	0.75	0.16
On-site cars	0	Gasoline	1	2.5	0.000386	0.00	0.00
Light Duty Trucks on Paved Roadways	8	Gasoline	1	30	0.00213	0.51	0.11
Buses	0	Diesel	1	2.5	0.02013	0.00	0.00
Trucks on Paved Roadways	3	Diesel	2	30	0.02013	3.62	0.76
Trucks on Paved Roadways - Onsite	6	Diesel	2	5	0.02013	1.21	0.25
Total	77					6.09	1.28

(1) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m²) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #394.

Table A-26

Fugitive Dust Construction Emission Estimates
From Trucks and Employee Vehicles - Months 7/8

Source Type	Number	Fuel	Peak Daily Trips	One-way Distance	Emission Factor ⁽¹⁾ (lb/vmt)	Peak PM-10 (lbs/day)	Peak PM-2.5 ⁽²⁾ (lbs/day)
Passenger Vehicle/ On Paved Roadways	75	Gasoline	2	16.2	0.000386	0.94	0.20
On-site cars	0	Gasoline	1	2.5	0.000386	0.00	0.00
Light Duty Trucks on Paved Roadways	8	Gasoline	1	30	0.00213	0.51	0.11
Buses	0	Diesel	1	2.5	0.02013	0.00	0.00
Trucks on Paved Roadways	4	Diesel	2	30	0.02013	4.83	1.01
Trucks on Paved Roadways - Onsite	6	Diesel	2	5	0.02013	1.21	0.25
Total	93					7.49	1.57

(1) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m²) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #394.

Table A-27

Fugitive Dust Construction Emission Estimates
From Trucks and Employee Vehicles - Month 9

Source Type	Number	Fuel	Peak Daily Trips	One-way Distance	Emission Factor ⁽¹⁾ (lb/vmt)	Peak PM-10 (lbs/day)	Peak PM-2.5 ⁽²⁾ (lbs/day)
Passenger Vehicle/ On Paved Roadways	65	Gasoline	2	16.2	0.000386	0.81	0.17
On-site cars	0	Gasoline	1	2.5	0.000386	0.00	0.00
Light Duty Trucks on Paved Roadways	8	Gasoline	1	30	0.00213	0.51	0.11
Buses	0	Diesel	1	2.5	0.02013	0.00	0.00
Trucks on Paved Roadways	3	Diesel	2	30	0.02013	3.62	0.76
Trucks on Paved Roadways - Onsite	5	Diesel	2	5	0.02013	1.01	0.21
Total	81					5.95	1.25

(1) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m2) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_ratio.xls : Profile ID #394.

Table A-28

Fugitive Dust Construction Emission Estimates
From Trucks and Employee Vehicles - Months 10/11

Source Type	Number	Fuel	Peak Daily Trips	One-way Distance	Emission Factor ⁽¹⁾ (lb/vmt)	Peak PM-10 (lbs/day)	Peak PM-2.5 ⁽²⁾ (lbs/day)
Passenger Vehicle/ On Paved Roadways	50	Gasoline	2	16.2	0.000386	0.63	0.13
On-site cars	0	Gasoline	1	2.5	0.000386	0.00	0.00
Light Duty Trucks on Paved Roadways	6	Gasoline	1	30	0.00213	0.38	0.08
Buses	0	Diesel	1	2.5	0.02013	0.00	0.00
Trucks on Paved Roadways	3	Diesel	2	30	0.02013	3.62	0.76
Trucks on Paved Roadways - Onsite	5	Diesel	2	5	0.02013	1.01	0.21
Total	64					5.64	1.18

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(1) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m2) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

(2) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls : Profile ID #394.

Table A-29

CONSTRUCTION SUMMARY

Construction Period	Estimated Emissions - Month 1 - Phase 1 - Excavation, Site Preparation, Foundations					
	CO	VOC	NOx	SOx	PM10	PM2.5
Construction Equipment	22.20	7.14	36.45	0.04	2.98	2.74
Vehicle Emissions	10.83	1.32	7.13	0.01	0.28	0.23
Fugitive Emissions - Demolition	0.00	0.00	0.00	0.00	21.03	12.20
Fugitive Road Dust	0.00	0.00	0.00	0.00	5.61	1.18
Architectural Coatings						
TOTAL EMISSIONS	33.03	8.46	43.58	0.05	29.90	16.35
SCAQMD Thresholds	550	75	100	150	150	55
Significant	No	No	No	No	No	No

Construction Period	Estimated Emissions - Month 2 - Phase 1 - Excavation, Site Preparation, Foundations					
	CO	VOC	NOx	SOx	PM10	PM2.5
Construction Equipment	22.20	7.14	36.45	0.04	2.98	2.74
Vehicle Emissions	12.15	1.50	8.55	0.01	0.33	0.27
Fugitive Emissions - Demolition	0.00	0.00	0.00	0.00	21.03	12.20
Fugitive Road Dust	0.00	0.00	0.00	0.00	6.82	1.43
Architectural Coatings						
TOTAL EMISSIONS	34.34	8.64	45.00	0.05	31.16	16.65
SCAQMD Thresholds	550	75	100	150	150	55
Significant	No	No	No	No	No	No

Construction Period	Estimated Emissions - Month 3 - Phase 1 - Excavation, Site Preparation, Foundations					
	CO	VOC	NOx	SOx	PM10	PM2.5
Construction Equipment	26.29	7.83	49.77	0.05	3.14	2.89
Vehicle Emissions	18.13	2.12	9.39	0.02	0.38	0.31
Fugitive Emissions - Demolition	0.00	0.00	0.00	0.00	21.03	12.20
Fugitive Road Dust	0.00	0.00	0.00	0.00	7.34	1.54
Architectural Coatings						
TOTAL EMISSIONS	44.41	9.95	59.16	0.07	31.89	16.94
SCAQMD Thresholds	550	75	100	150	150	55
Significant	No	No	No	No	No	No

Construction Period	Estimated Emissions - Month 4 - Phase 2 - Construction of Five FGR Compressors and Piping					
	CO	VOC	NOx	SOx	PM10	PM2.5
Construction Equipment	36.17	12.54	57.28	0.06	3.91	3.60
Vehicle Emissions	24.13	2.63	7.24	0.03	0.34	0.26
Fugitive Emissions - Demolition						
Fugitive Road Dust	0.00	0.00	0.00	0.00	5.30	1.11
Architectural Coatings						
TOTAL EMISSIONS	60.30	15.17	64.52	0.08	9.56	4.97
SCAQMD Thresholds	550	75	100	150	150	55
Significant	No	No	No	No	No	No

Table A-29 (Concluded)

CONSTRUCTION SUMMARY

Construction Period	Estimated Emissions - Months 5 & 6 - Phase 2 - Construction of Five FGR Compressors and Piping					
	CO	VOC	NOx	SOx	PM10	PM2.5
Construction Equipment	49.99	18.40	74.28	0.07	5.18	4.77
Vehicle Emissions	30.72	3.40	10.71	0.03	0.49	0.37
Fugitive Emissions - Demolition						
Fugitive Road Dust	0.00	0.00	0.00	0.00	6.09	1.28
Architectural Coatings						
TOTAL EMISSIONS	80.71	21.80	84.98	0.11	11.76	6.42
SCAQMD Thresholds	550	75	100	150	150	55
Significant	No	No	No	No	No	No

Construction Period	Estimated Emissions - Months 7 & 8 - Phase 2/3 Construction of Five FGR Compressors and Piping/Retray Amine Absorber					
	CO	VOC	NOx	SOx	PM10	PM2.5
Construction Equipment	47.63	18.33	62.94	0.07	5.19	4.78
Vehicle Emissions	35.85	3.93	11.24	0.04	0.53	0.40
Fugitive Emissions - Demolition						
Fugitive Road Dust	0.00	0.00	0.00	0.00	7.49	1.57
Architectural Coatings						
TOTAL EMISSIONS	83.48	22.26	74.18	0.10	13.21	6.75
SCAQMD Thresholds	550	75	100	150	150	55
Significant	No	No	No	No	No	No

Construction Period	Estimated Emissions - Month 9 - Phase 3/4 - Retray Amine Absorber/Piping Tie-ins					
	CO	VOC	NOx	SOx	PM10	PM2.5
Construction Equipment	37.98	14.53	50.85	0.05	4.00	3.68
Vehicle Emissions	30.45	3.31	8.75	0.03	0.42	0.32
Fugitive Construction						
Fugitive Road Dust	0.00	0.00	0.00	0.00	5.95	1.25
Architectural Coatings						
TOTAL EMISSIONS	68.43	17.84	59.60	0.08	10.37	5.24
SCAQMD Thresholds	550	75	100	150	150	55
Significant	No	No	No	No	No	No

Construction Period	Estimated Emissions - Months 10 & 11 - Phase 4 - Piping Tie-ins					
	CO	VOC	NOx	SOx	PM10	PM2.5
Construction Equipment	36.66	13.19	55.68	0.06	3.97	3.65
Vehicle Emissions	24.69	2.72	8.15	0.03	0.38	0.29
Fugitive Emissions - Demolition						
Fugitive Road Dust	0.00	0.00	0.00	0.00	5.64	1.18
Architectural Coatings						
TOTAL EMISSIONS	61.35	15.91	63.83	0.08	9.99	5.13
SCAQMD Thresholds	550	75	100	150	150	55
Significant	No	No	No	No	No	No