

Master's College Construction Summary

Phase	Pollutants (pound/day)					
	ROG	NOx	CO	SOx	PM10	PM2.5
I	12.93	114.40	50.46	0.11	172.71	39.56
II	10.28	82.06	38.09	0.10	4.11	3.77
III	14.72	92.65	71.90	0.15	4.18	3.78
Maximum Daily Emissions in Any Year	14.72	114.40	71.90	0.15	172.71	39.56

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name **Master's College**
 Subphase **Phase 1: Grading**
 Activities **Mass Grading**
 Length of Subphase Grading (Work Days): 132
 Months of Grading Activity: 6.0
 Number of Days/Month: 22
 Grading Year: 2009
 Maximum Daily Acreage Graded in Subphase (ac): 5.00
 Amount of On-Site Cut and Fill Per Day (cy): 0.00
 Amount of Off-Site Cut and Fill Per Day (cy): 863.00

132
6.0
22
2009
5.00
0.00
863.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 429.72

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas 128.92 30% reduction
 Replace Ground Cover in Disturbed Areas 64.46 15% reduction
 Water Exposed Surfaces Twice Daily 146.10 34% reduction
 Water Exposed Surfaces Three Times Daily 262.13 61% reduction (percent reduction from URBEMIS2007)
 Total Dust Mitigation 262.13 Maximum of 61% reduction.

128.92	30% reduction
64.46	15% reduction
146.10	34% reduction
262.13	61% reduction (percent reduction from URBEMIS2007)
262.13	Maximum of 61% reduction.

GRADING ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day: 863
 Round Trip Length (miles): 1
 Capacity of Haul Truck (cy): 20
 Number of Haul Truck Trips/Day: 43.15 **Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)**
 Daily Vehicle Miles Traveled: 43
 EMFAC2007 Emission Rates

Emission Factors in lbs/mile (2009)						
ROG	NOx	CO	SOx	PM10	PM2.5	
0.003293	0.041846	0.012822	0.000040	0.001996	0.001752	

Haul Trucks
 SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Duty Diesel Trucks (for) Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHDDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):					
ROG	NOx	CO	SOx	PM10	PM2.5
0.14	1.81	0.55	0.00	0.09	0.08

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)					Emission Factors in lbs/hr (2009)				
			ROG	NOx	CO	SOx	PM10	ROG	NOx	CO	SOx	PM
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002	0.054
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001	0.058
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.168	1.529	0.571	0.001	0.068
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.196	1.461	0.662	0.001	0.090
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.227	1.513	0.744	0.001	0.098
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.158	1.234	0.570	0.001	0.068
Graders	1	8	1.5	12.2	5.1	0.0	0.6	0.183	1.524	0.643	0.001	0.080
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.247	2.082	0.866	0.002	0.102
Off-Highway Trucks	1	8	2.1	20.4	6.3	0.0	0.7	0.260	2.551	0.793	0.003	0.093
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.113	1.081	0.429	0.001	0.047
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.187	1.032	0.576	0.001	0.074
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.141	0.940	0.454	0.001	0.066
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.125	0.817	0.427	0.001	0.057
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.137	0.851	0.482	0.001	0.072
Rubber Tired Dozers	1	8	2.8	25.0	12.0	0.0	1.1	0.351	3.125	1.502	0.002	0.135
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.153	1.225	0.521	0.001	0.069
Scrapers	2	8	5.4	49.0	21.2	0.0	2.1	0.335	3.063	1.328	0.003	0.132
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.023	0.168	0.096	0.000	0.010
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.078	0.306	0.257	0.000	0.028
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.165	1.656	0.659	0.002	0.064
Tractors/Loaders/Backhoes	1	8	0.9	5.8	3.2	0.0	0.4	0.111	0.723	0.399	0.001	0.056
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.176	0.791	0.499	0.001	0.066
Total Pieces of Equipment	6	Total Emissions:	12.6	112.4	47.9	0.1	5.0					

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips: 8
 Number of Passenger Vehicle Trips: 8
 EMFAC2007 Emission Rates

Emission Factors in lbs/mile (2009)						
ROG	NOx	CO	SOx	PM10	PM2.5	
0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	

Passenger Vehicles
 One-Way Trip Length 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
 VMT: 203.20

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Passenger Vehicles (for) Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) Apply emission factors for appropriate year.:

	ROG	NOx	CO	SOx	PM10	PM2.5
Passenger Vehicles	0.20	0.20	1.97	0.00	0.02	0.01
Total Emissions	0.20	0.20	1.97	0.00	0.02	0.01

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors for Appropriate Year)

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day)						
	ROG	NOx	CO	SOx	PM10	PM2.5	DPM
Fugitive Dust	--	--	--	--	429.72	89.38	--
On-Road Diesel Exhaust	0.14	1.81	0.55	0.00	0.09	0.08	0.09
Off-Road Diesel Exhaust	12.59	112.39	47.94	0.10	5.02	4.62	5.02
Grading Worker Commute Trips	0.20	0.20	1.97	0.00	0.02	0.01	--
Mitigation/Reduction							
Fugitive Dust	--	--	--	--	262.13	54.52	--
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00	No Feasible Mitigation Available
Net Emission Totals:	12.93	114.40	50.46	0.11	172.71	39.56	5.10
SCAQMD Threshold:	75	100	550	150	150	55	--
Exceeds Threshold?	No	Yes	No	No	Yes	No	--
HRA/LST Emissions	12.59	112.39	47.94	0.10	172.61	39.48	5.02

CONSTRUCTION PHASE EMISSIONS BASED ON URBEMIS2007

Project Name **Master's College**
 Subphase **Phase 2: Construction and Utilities**
 Activities **Utilities, Bridge, Security Booth**
 Length of Subphase Grading (Work Days): 1.056
 Months of Grading Activity: 48.0
 Number of Days/Month: 22
 Grading Year: 2011
 Maximum Daily Acreage Graded in Subphase (ac): 0.00
 Amount of On-Site Cut and Fill Per Day (cy): 0.00
 Amount of Off-Site Cut and Fill Per Day (cy): 0.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

CONSTRUCTION OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)					Emission Factors in lbs/hr (2011)				
			ROG	NOx	CO	SOx	PM10	ROG	NOx	CO	SOx	PM
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002	0.044
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001	0.052
Cranes	1	8	1.2	10.9	4.1	0.0	0.5	0.151	1.362	0.518	0.001	0.060
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.176	1.307	0.622	0.001	0.081
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.201	1.353	0.707	0.001	0.088
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.139	1.063	0.548	0.001	0.059
Graders		8	0.0	0.0	0.0	0.0	0.0	0.163	1.340	0.622	0.001	0.071
Off-Highway Tractors	1	8	1.8	15.1	6.5	0.0	0.7	0.227	1.892	0.812	0.002	0.093
Off-Highway Trucks	1	8	1.9	17.6	5.6	0.0	0.6	0.235	2.194	0.699	0.003	0.079
Other Construction Equipment	3	8	2.4	22.4	9.5	0.0	1.0	0.098	0.932	0.395	0.001	0.040
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.168	0.942	0.554	0.001	0.068
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.127	0.854	0.442	0.001	0.060
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.111	0.734	0.416	0.001	0.052
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.118	0.749	0.472	0.001	0.064
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.324	2.835	1.328	0.002	0.121
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.135	1.077	0.496	0.001	0.061
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.306	2.734	1.166	0.003	0.117
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.021	0.155	0.095	0.000	0.009
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.061	0.280	0.242	0.000	0.023
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.145	1.465	0.579	0.002	0.056
Tractors/Loaders/Backhoes	2	8	1.5	10.0	6.2	0.0	0.8	0.094	0.628	0.387	0.001	0.048
Trenchers	1	8	1.3	5.8	3.9	0.0	0.5	0.159	0.730	0.483	0.001	0.061
Total Pieces of Equipment	9	Total Emissions:	10.0	81.8	35.8	0.1	4.1					

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

CONSTRUCTION WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	11					
Number of Passenger Vehicle Trips	11					
EMFAC2007 Emission Rates						
	Emission Factors in lbs/mile (2011)					
	ROG	NOx	CO	SOx	PM10	PM2.5
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057
One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)				
VMT:	279.40					

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Passenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.:**

	ROG	NOx	CO	SOx	PM10	PM2.5
Passenger Vehicles	0.24	0.24	2.31	0.00	0.02	0.02
Total Emissions	0.24	0.24	2.31	0.00	0.02	0.02

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors for Appropriate Year)

TOTAL SUBPHASE CONSTRUCTION EMISSIONS

Emissions Source	Emissions (Pounds per Day)						
	ROG	NOx	CO	SOx	PM10	PM2.5	DPM
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road Diesel Exhaust	10.04	81.83	35.79	0.09	4.08	3.76	4.08
Grading Worker Commute Trips	0.24	0.24	2.31	0.00	0.02	0.02	--
Net Emission Totals:	10.28	82.06	38.09	0.10	4.11	3.77	4.08
SCAQMD Threshold:	75	100	550	150	150	55	--
Exceeds Threshold?	No	No	No	No	No	No	--
HRA/LST Emissions	10.04	81.83	35.79	0.09	4.08	3.76	4.08

CONSTRUCTION PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	Master's College
Subphase	Phase 3: Construction
Activities	Classrooms, Dormitory, and Asphalt Paving
Length of Subphase Grading (Work Days):	1,056
Months of Grading Activity:	48.0
Number of Days/Month	22
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	0.00
Amount of On-Site Cut and Fill Per Day (cy)	0.00
Amount of Off-Site Cut and Fill Per Day (cy)	0.00
Number of Single-Family Units (du)	0.00
Number of Multi-Family Units (du)	54.00
Square feet of Commercial or Retail (ksf)	0.00
Square feet of Office or Industrial (ksf)	260.99

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

CONSTRUCTION OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)				
			ROG	NOx	CO	SOx	PM10	ROG	NOx	CO	SOx	PM	
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002	0.020	
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001	0.037	
Cranes	1	8	1.0	8.2	3.5	0.0	0.3	0.120	1.020	0.440	0.001	0.043	
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.141	1.006	0.565	0.001	0.059	
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.146	0.989	0.655	0.001	0.061	
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.106	0.742	0.525	0.001	0.038	
Graders		8	0.0	0.0	0.0	0.0	0.0	0.128	0.979	0.593	0.001	0.049	
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.189	1.508	0.724	0.002	0.072	
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.192	1.493	0.597	0.003	0.052	
Other Construction Equipment	7	8	4.3	35.8	20.4	0.1	1.5	0.077	0.639	0.365	0.001	0.026	
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.135	0.761	0.520	0.001	0.053	
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.102	0.684	0.423	0.001	0.047	
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.085	0.571	0.398	0.001	0.039	
Rough Terrain Forklifts		8	4.1	26.8	22.0	0.0	2.0	0.085	0.559	0.458	0.001	0.042	
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.272	2.234	1.042	0.002	0.092	
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.105	0.784	0.461	0.001	0.042	
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.251	2.065	0.944	0.003	0.085	
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.017	0.125	0.093	0.000	0.007	
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.035	0.220	0.222	0.000	0.013	
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.112	1.068	0.470	0.002	0.039	
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.067	0.450	0.372	0.001	0.030	
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.127	0.604	0.454	0.001	0.048	
Total Pieces of Equipment	14	Total Emissions:	9.3	70.8	45.9	0.1	3.8						

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

CONSTRUCTION WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	18					
Number of Passenger Vehicle Trips	18					
EMFAC2007 Emission Rates						
	Emission Factors in lbs/mile (2015)					
	ROG	NOx	CO	SOx	PM10	PM2.5
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060
One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)				
VMT:	457.20					

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Passenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.:**

	ROG	NOx	CO	SOx	PM10	PM2.5
Passenger Vehicles	0.30	0.28	2.81	0.00	0.04	0.03
Total Emissions	0.30	0.28	2.81	0.00	0.04	0.03

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors for Appropriate Year)

ARCHITECTURAL COATINGS OFF-GAS EMISSIONS

Months of Architectural Coatings	44.00
Days of Architectural Coatings	968.00
Arch. Coatings Off-Gas Emissions	0.35

ARCHITECTURAL COATINGS WORKER TRIPS

Assumes that 0.36 trips/SF unit, 0.72 trips/MF unit, and 0.37 trips/1000 sf nonresidential (average of 0.32 and 0.42 for Commercial/Retail and Office/Industrial, respectively)

Number of Trips:	129					
Number of Passenger Trips	129					
EMFAC2007 Emission Rates						
	Emission Factors in lbs/mile (2015)					
	ROG	NOx	CO	SOx	PM10	PM2.5
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060
Round Trip:	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)				
Passenger VMT	1,638.30					

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Passenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.:**

	ROG	NOx	CO	SOx	PM10	PM2.5
Passenger Vehicles	1.09	0.99	10.06	0.02	0.15	0.10
Total Emissions	1.09	0.99	10.06	0.02	0.15	0.10

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors for Appropriate Year)

ASPHALT PAVING EMISSIONS (Phase 3 Continued)

Total Acres Paved (ac)	2.70
Total Paving Period (months)	0.5
Total Paving Period (days)	11.00
Total Volume of Asphalt Material (cy)	1089.00
Acres Paved Per Day (ac)	0.25
Asphalt Material Needed Per Day (cy)	99.00
Haul Truck Capacity (cubic yards)	20
Truck Trips Per Day	4.95
Round Trip Distance	20.00
On-Road Diesel VMT Per Day	99.00

Assuming asphalt thickness of 3 inches

ASPHALT PAVING OFF-GAS EMISSIONS

ROG (lbs/day) 0.64

ASPHALT PAVING ON-ROAD DIESEL

EMFAC2002 Emission Rates

Emission Factors in lbs/mile (2015)					
ROG	NOx	CO	SOx	PM10	PM2.5
0.001786	0.021227	0.007669	0.000041	0.001047	0.000880

Haul Trucks

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

Asphalt Paving On-Road Diesel Exhaust Emissions (pounds/day):					
ROG	NOx	CO	SOx	PM10	PM2.5
0.18	2.10	0.76	0.00	0.10	0.09

ASPHALT PAVING OFF-ROAD DIESEL

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)					Emission Factors in lbs/hr (2015)				
			ROG	NOx	CO	SOx	PM10	ROG	NOx	CO	SOx	PM
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002	0.020
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001	0.037
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001	0.043
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.141	1.006	0.565	0.001	0.059
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.146	0.989	0.655	0.001	0.061
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.106	0.742	0.525	0.001	0.038
Graders	1	8	1.0	7.8	4.7	0.0	0.4	0.128	0.979	0.593	0.001	0.049
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.189	1.508	0.724	0.002	0.072
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.192	1.493	0.597	0.003	0.052
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.077	0.639	0.365	0.001	0.026
Pavers	1	8	1.1	6.1	4.2	0.0	0.4	0.135	0.761	0.520	0.001	0.053
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.102	0.684	0.423	0.001	0.047
Rollers	1	8	0.7	4.6	3.2	0.0	0.3	0.085	0.571	0.398	0.001	0.039
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.085	0.559	0.458	0.001	0.042
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.272	2.234	1.042	0.002	0.092
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.105	0.784	0.461	0.001	0.042
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.251	2.065	0.944	0.003	0.085
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.017	0.125	0.093	0.000	0.007
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.035	0.220	0.222	0.000	0.013
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.112	1.068	0.470	0.002	0.039
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.067	0.450	0.372	0.001	0.030
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.127	0.604	0.454	0.001	0.048
Total Pieces of Equipment	3	Total Emissions:	2.8	18.5	12.1	0.0	1.1					

Construction Equipment Emissions Factors are from URBEMISS2002 Users' Guide (May 2003) pp. H-2 - H-5.

ASPHALT PAVING WORKER COMMUTE EMISSIONS

Assumes that the number of Employees is 125% of total pieces of construction equipment, and that the commute fleet mix is 50% light duty autos and 50% light duty trucks.

Number of Employees: 4

Number of Passenger Vehicles 2

Number of Light Duty Trucks 2

EMFAC2007 Emission Rates

Emission Factors in lbs/mile (2015)					
ROG	NOx	CO	SOx	PM10	PM2.5
0.000664	0.000602	0.006141	0.000011	0.000093	0.000060

Passenger Vehicles

Round Trip: 11.5 Miles

VMT: 46.00

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Passenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.:**

	ROG	NOx	CO	SOx	PM10	PM2.5
Light Duty Automobiles	0.03	0.03	0.28	0.00	0.00	0.00
Total Emissions	0.03	0.03	0.28	0.00	0.00	0.00

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors for Appropriate Year)

Light Duty Trucks assumes average between Passenger Vehicle and Delivery Truck emissions.

TOTAL SUBPHASE CONSTRUCTION EMISSIONS

Emissions Source	Emissions (Pounds per Day)						
	ROG	NOx	CO	SOx	PM10	PM2.5	DPM
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road Diesel Exhaust	9.34	70.77	45.90	0.12	3.85	3.54	3.85
Grading Worker Commute Trips	0.30	0.28	2.81	0.00	0.04	0.03	--
Architectural Coatings Off-Gas	0.35	--	--	--	--	--	--
Architectural Coatings Worker Trips	1.09	0.99	10.06	0.02	0.15	0.10	--
Asphalt Paving Off-Gas	0.64	--	--	--	--	--	--
Asphalt Paving On-Road Diesel	0.18	2.10	0.76	0.00	0.10	0.09	--
Asphalt Paving Off-Road Diesel	2.78	18.49	12.09	--	0.03	0.02	--
Asphalt Paving Worker Trips	0.03	0.03	0.28	0.00	0.00	0.00	--
Net Emission Totals:	14.72	92.65	71.90	0.15	4.18	3.78	3.85
SCAQMD Threshold:	75	100	550	150	150	55	--
Exceeds Threshold?	No	No	No	No	No	No	--
HRA/LST Emissions	9.34	70.77	45.90	0.12	3.85	3.54	3.85