

Appendix D

Air Quality Modeling Results

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Urbemis 2007 Version 9.2.2

Combined Annual Emissions Reports (Tons/Year)

File Name: U:\MLangley\Wilson II Elementary School\Urbemis output.urb9

Project Name: Wilson II Elementary School

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2008 TOTALS (tons/year unmitigated)	0.73	5.46	2.76	0.00	1.02	0.28	1.30	0.21	0.26	0.47	542.34
2008 TOTALS (tons/year mitigated)	0.73	3.98	2.76	0.00	0.13	0.03	0.15	0.03	0.02	0.05	542.34
Percent Reduction	0.00	27.11	0.00	0.00	87.71	90.71	88.37	87.60	90.73	89.33	0.00
2009 TOTALS (tons/year unmitigated)	0.71	1.16	0.97	0.00	0.00	0.08	0.09	0.00	0.08	0.08	132.59
2009 TOTALS (tons/year mitigated)	0.67	0.85	0.97	0.00	0.00	0.01	0.01	0.00	0.01	0.01	132.59
Percent Reduction	6.37	26.69	0.00	0.00	0.00	90.33	89.00	0.00	90.39	89.87	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.08	0.07	0.35	0.00	0.00	0.00	90.22
TOTALS (tons/year, mitigated)	0.08	0.07	0.35	0.00	0.00	0.00	90.22
Percent Reduction	0.00	0.00	0.00	NaN	NaN	NaN	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.16	1.70	13.18	0.01	1.87	0.37	1,089.44

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.24	1.77	13.53	0.01	1.87	0.37	1,179.66

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Urbemis 2007 Version 9.2.2

Combined Summer Emissions Reports (Pounds/Day)

File Name: U:\MLangley\Wilson II Elementary School\Urbemis output.urb9

Project Name: Wilson II Elementary School

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov-1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2008 TOTALS (lbs/day unmitigated)	11.72	89.30	43.94	0.01	43.63	4.92	48.55	9.12	4.53	13.64	8,223.84
2008 TOTALS (lbs/day mitigated)	11.72	65.32	43.94	0.01	3.07	0.49	3.56	0.65	0.45	1.09	8,223.84
2009 TOTALS (lbs/day unmitigated)	79.70	18.09	15.96	0.01	0.02	1.31	1.33	0.01	1.20	1.21	2,155.38
2009 TOTALS (lbs/day mitigated)	72.13	13.28	15.96	0.01	0.02	0.13	0.15	0.01	0.12	0.13	2,155.38

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.41	0.43	1.94	0.00	0.00	0.00	494.36
TOTALS (lbs/day, mitigated)	0.41	0.43	1.94	0.00	0.00	0.00	494.36
Percent Reduction	0.00	0.00	0.00	NaN	NaN	NaN	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	6.15	8.73	72.71	0.06	10.27	2.03	6,155.27

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	6.56	9.16	74.65	0.06	10.27	2.03	6,649.63

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2008-6/30/2008 Active Days: 130	5.29	46.22	20.31	0.00	0.88	2.21	3.09	0.18	2.03	2.22	4,638.07
Demolition 01/01/2008- 06/30/2008	5.29	46.22	20.31	0.00	0.88	2.21	3.09	0.18	2.03	2.22	4,638.07
Fugitive Dust	0.00	0.00	0.00	0.00	0.86	0.00	0.86	0.18	0.00	0.18	0.00
Demo Off Road Diesel	5.14	45.05	17.79	0.00	0.00	2.16	2.16	0.00	1.99	1.99	4,299.34
Demo On Road Diesel	0.08	1.04	0.41	0.00	0.00	0.05	0.05	0.00	0.04	0.04	120.87
Demo Worker Trips	0.07	0.13	2.12	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.85
Time Slice 7/1/2008-8/14/2008 Active Days: 33	7.94	68.81	31.10	0.00	43.61	3.27	46.88	9.11	3.00	12.11	6,401.31
Fine Grading 07/01/2008- 08/31/2008	7.94	68.81	31.10	0.00	43.61	3.27	46.88	9.11	3.00	12.11	6,401.31
Fine Grading Dust	0.00	0.00	0.00	0.00	43.60	0.00	43.60	9.11	0.00	9.11	0.00
Fine Grading Off Road Diesel	7.86	68.66	28.68	0.00	0.00	3.26	3.26	0.00	3.00	3.00	6,152.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97

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	<u>11.72</u>	<u>99.30</u>	<u>43.94</u>	<u>0.01</u>	<u>43.63</u>	<u>4.92</u>	<u>48.55</u>	<u>9.12</u>	<u>4.53</u>	<u>13.64</u>	<u>8,223.84</u>
Time Slice 8/15/2008-8/29/2008 Active Days: 11											
Asphalt 08/15/2008-08/31/2008	3.78	20.50	12.84	0.01	0.02	1.65	1.68	0.01	1.52	1.53	1,822.53
Paving Off-Gas	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.99	17.76	9.40	0.00	0.00	1.54	1.54	0.00	1.41	1.41	1,272.04
Paving On Road Diesel	0.19	2.59	1.01	0.00	0.01	0.11	0.12	0.00	0.10	0.11	301.52
Paving Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97
Fine Grading 07/01/2008-08/31/2008	7.94	68.81	31.10	0.00	43.61	3.27	46.88	9.11	3.00	12.11	6,401.31
Fine Grading Dust	0.00	0.00	0.00	0.00	43.60	0.00	43.60	9.11	0.00	9.11	0.00
Fine Grading Off Road Diesel	7.86	68.66	28.68	0.00	0.00	3.26	3.26	0.00	3.00	3.00	6,152.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97
Time Slice 9/1/2008-12/31/2008 Active Days: 88	4.23	18.96	15.52	0.00	0.02	1.36	1.38	0.01	1.25	1.26	2,045.66
Building 09/01/2008-09/30/2009	4.23	18.96	15.52	0.00	0.02	1.36	1.38	0.01	1.25	1.26	2,045.66
Building Off Road Diesel	4.07	18.22	11.80	0.00	0.00	1.33	1.33	0.00	1.22	1.22	1,621.20
Building Vendor Trips	0.05	0.53	0.43	0.00	0.00	0.02	0.03	0.00	0.02	0.02	86.82
Building Worker Trips	0.11	0.20	3.29	0.00	0.02	0.01	0.02	0.01	0.01	0.01	337.65
Time Slice 1/1/2009-6/12/2009 Active Days: 117	4.01	18.03	14.96	0.00	0.02	1.31	1.32	0.01	1.20	1.21	2,045.51
Building 09/01/2008-06/30/2009	4.01	18.03	14.96	0.00	0.02	1.31	1.32	0.01	1.20	1.21	2,045.51
Building Off Road Diesel	3.87	17.35	11.50	0.00	0.00	1.28	1.28	0.00	1.17	1.17	1,621.20
Building Vendor Trips	0.04	0.50	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.82
Building Worker Trips	0.10	0.18	3.06	0.00	0.02	0.01	0.03	0.01	0.01	0.01	337.50

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Time Slice 6/15/2009-6/30/2009	79.70	18.09	15.96	0.01	0.02	1.31	1.33	0.01	1.20	1.21	2,155.38
Active Days: 12											
Building 09/01/2008-06/30/2009	4.01	18.03	14.96	0.00	0.02	1.31	1.32	0.01	1.20	1.21	2,045.51
Building Off Road Diesel	3.87	17.35	11.50	0.00	0.00	1.28	1.28	0.00	1.17	1.17	1,621.20
Building Vendor Trips	0.04	0.50	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.82
Building Worker Trips	0.10	0.18	3.06	0.00	0.02	0.01	0.03	0.01	0.01	0.01	337.50
Coating 06/15/2009-06/30/2009	75.69	0.06	1.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	109.86
Architectural Coating	75.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	1.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	109.86

Phase Assumptions

- Phase: Demolition 1/1/2008 - 6/30/2008 - Default Demolition Description
- Building Volume Total (cubic feet): 2.966097E+07
- Building Volume Daily (cubic feet): 2053.35
- On Road Truck Travel (VMT): 28.52
- Off-Road Equipment:
 - 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
 - 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
 - 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
 - 1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
 - 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

- Phase: Fine Grading 7/1/2008 - 8/31/2008 - Default Fine Site Grading/Excavation Description
- Total Acres Disturbed: 8.7
- Maximum Daily Acreage Disturbed: 2.18
- Fugitive Dust Level of Detail: Default
- 20 lbs per acre-day
- On Road Truck Travel (VMT): 0

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Off-Road Equipment:

- 2 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 8/15/2008 - 8/31/2008 - Type Your Description Here

Acres to be Paved: 2.18

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2008 - 6/30/2009 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/15/2009 - 6/30/2009 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2008-6/30/2008 Active Days: 130	5.29	33.72	20.31	0.00	0.88	0.21	1.09	0.18	0.20	0.38	4,638.07
Demolition 01/01/2008- 06/30/2008	5.29	33.72	20.31	0.00	0.88	0.21	1.09	0.18	0.20	0.38	4,638.07
Fugitive Dust	0.00	0.00	0.00	0.00	0.86	0.00	0.86	0.18	0.00	0.18	0.00
Demo Off Road Diesel	5.14	32.55	17.79	0.00	0.00	0.16	0.16	0.00	0.15	0.15	4,299.34
Demo On Road Diesel	0.08	1.04	0.41	0.00	0.00	0.05	0.05	0.00	0.04	0.04	120.87
Demo Worker Trips	0.07	0.13	2.12	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.85
Time Slice 7/1/2008-8/14/2008 Active Days: 33	7.94	49.75	31.10	0.00	3.05	0.25	3.30	0.64	0.23	0.87	6,401.31
Fine Grading 07/01/2008- 08/31/2008	7.94	49.75	31.10	0.00	3.05	0.25	3.30	0.64	0.23	0.87	6,401.31
Fine Grading Dust	0.00	0.00	0.00	0.00	3.04	0.00	3.04	0.63	0.00	0.63	0.00
Fine Grading Off Road Diesel	7.86	49.61	28.68	0.00	0.00	0.24	0.24	0.00	0.22	0.22	6,152.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97

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Time Slice 8/15/2008-8/29/2008 Active Days: 11	11.72	65.32	43.94	0.01	3.07	0.49	3.56	0.65	0.45	1.09	8,223.84
Asphalt 08/15/2008-08/31/2008	3.78	15.57	12.84	0.01	0.02	0.23	0.26	0.01	0.22	0.22	1,822.53
Paving Off-Gas	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.99	12.83	9.40	0.00	0.00	0.12	0.12	0.00	0.11	0.11	1,272.04
Paving On Road Diesel	0.19	2.59	1.01	0.00	0.01	0.11	0.12	0.00	0.10	0.11	301.52
Paving Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97
Fine Grading 07/01/2008-08/31/2008	7.94	49.75	31.10	0.00	3.05	0.25	3.30	0.64	0.23	0.87	6,401.31
Fine Grading Dust	0.00	0.00	0.00	0.00	3.04	0.00	3.04	0.63	0.00	0.63	0.00
Fine Grading Off Road Diesel	7.86	49.61	28.68	0.00	0.00	0.24	0.24	0.00	0.22	0.22	6,152.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97
Time Slice 9/1/2008-12/31/2008 Active Days: 88	4.23	13.90	15.52	0.00	0.02	0.13	0.15	0.01	0.12	0.13	2,045.66
Building 09/01/2008-06/30/2009	4.23	13.90	15.52	0.00	0.02	0.13	0.15	0.01	0.12	0.13	2,045.66
Building Off Road Diesel	4.07	13.17	11.80	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,621.20
Building Vendor Trips	0.05	0.53	0.43	0.00	0.00	0.02	0.03	0.00	0.02	0.02	86.82
Building Worker Trips	0.11	0.20	3.29	0.00	0.02	0.01	0.02	0.01	0.01	0.01	337.65
Time Slice 1/1/2009-6/12/2009 Active Days: 117	4.01	13.22	14.96	0.00	0.02	0.13	0.14	0.01	0.12	0.12	2,045.51
Building 09/01/2008-06/30/2009	4.01	13.22	14.96	0.00	0.02	0.13	0.14	0.01	0.12	0.12	2,045.51
Building Off Road Diesel	3.87	12.53	11.50	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,621.20
Building Vendor Trips	0.04	0.50	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.82
Building Worker Trips	0.10	0.18	3.06	0.00	0.02	0.01	0.03	0.01	0.01	0.01	337.50

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Time Slice	72.13	13.28	15.96	0.01	0.02	0.13	0.15	0.01	0.12	0.13	2,155.38
Active Days:	12										
Building 09/01/2008-06/30/2009	4.01	13.22	14.96	0.00	0.02	0.13	0.14	0.01	0.12	0.12	2,045.51
Building Off Road Diesel	3.87	12.53	11.50	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,621.20
Building Vendor Trips	0.04	0.50	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.82
Building Worker Trips	0.10	0.18	3.06	0.00	0.02	0.01	0.03	0.01	0.01	0.01	337.50
Coating 06/15/2009-06/30/2009	68.12	0.06	1.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	109.86
Architectural Coating	68.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	1.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	109.86

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 1/1/2008 - 6/30/2008 - Default Demolition Description
 For Concrete/Industrial Saws, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Off Highway Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Off Highway Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Off Highway Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Loaders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Loaders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Loaders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Fine Grading 7/1/2008 - 8/31/2008 - Default Fine Site Grading/Excavation Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

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PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Off Highway Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Off Highway Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Off Highway Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

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PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 8/15/2008 - 8/31/2008 - Type Your Description Here

For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

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For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 9/1/2008 - 6/30/2009 - Default Building Construction Description

For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Generator Sets, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Generator Sets, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Generator Sets, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Welders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

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NOX: 15% PM10: 50% PM25: 50%

For Welders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Welders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 6/15/2009 - 6/30/2009 - Default Architectural Coating Description

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.03	0.41	0.34	0.00	0.00	0.00	491.61
Hearth - No Summer Emissions							
Landscape	0.13	0.02	1.60	0.00	0.00	0.00	2.75
Consumer Products	0.00						
Architectural Coatings	0.25						
TOTALS (lbs/day, unmitigated)	0.41	0.43	1.94	0.00	0.00	0.00	494.36

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Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.03	0.41	0.34	0.00	0.00	0.00	491.61
Hearth - No Summer Emissions							
Landscape	0.13	0.02	1.60	0.00	0.00	0.00	2.75
Consumer Products	0.00						
Architectural Coatings	0.25						
TOTALS (lbs/day, mitigated)	0.41	0.43	1.94	0.00	0.00	0.00	494.36

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
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Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Elementary school	6.15	8.73	72.71	0.06	10.27	2.03	6,155.27
TOTALS (lbs/day, unmitigated)	6.15	8.73	72.71	0.06	10.27	2.03	6,155.27

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Elementary school		14.49	1000 sq ft	42.38	614.09	5,913.65
					614.09	5,913.65

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0	2.0	97.6	0.4
Light Truck < 3750 lbs	10.9	3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	77.1	22.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	10.0	80.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
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Operational Changes to Defaults

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Urbemis 2007 Version 9.2.2

Combined Winter Emissions Reports (Pounds/Day)

File Name: U:\MLangley\Wilson II Elementary School\Urbemis output.urb9

Project Name: Wilson II Elementary School

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2008 TOTALS (lbs/day unmitigated)	11.72	89.30	43.94	0.01	43.63	4.92	9.12	4.53	13.64	8,223.84
2008 TOTALS (lbs/day mitigated)	11.72	65.32	43.94	0.01	3.07	0.49	0.65	0.45	1.09	8,223.84
2009 TOTALS (lbs/day unmitigated)	79.70	18.09	15.96	0.01	0.02	1.31	0.01	1.20	1.21	2,155.38
2009 TOTALS (lbs/day mitigated)	72.13	13.28	15.96	0.01	0.02	0.13	0.01	0.12	0.13	2,155.38

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.28	0.41	0.34	0.00	0.00	0.00	491.61
TOTALS (lbs/day, mitigated)	0.28	0.41	0.34	0.00	0.00	0.00	491.61
Percent Reduction	0.00	0.00	0.00	NaN	NaN	NaN	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.84	10.44	71.20	0.05	10.27	2.03	5,598.11

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.12	10.85	71.54	0.05	10.27	2.03	6,089.72

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOX	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2008-6/30/2008 Active Days: 130	5.29	46.22	20.31	0.00	0.88	2.21	3.09	0.18	2.03	2.22	4,638.07
Demolition 01/01/2008- 06/30/2008	5.29	46.22	20.31	0.00	0.88	2.21	3.09	0.18	2.03	2.22	4,638.07
Fugitive Dust	0.00	0.00	0.00	0.00	0.86	0.00	0.86	0.18	0.00	0.18	0.00
Demo Off Road Diesel	5.14	45.05	17.79	0.00	0.00	2.16	2.16	0.00	1.99	1.99	4,299.34
Demo On Road Diesel	0.08	1.04	0.41	0.00	0.00	0.05	0.05	0.00	0.04	0.04	120.87
Demo Worker Trips	0.07	0.13	2.12	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.85
Time Slice 7/1/2008-8/14/2008 Active Days: 33	7.94	68.81	31.10	0.00	43.61	3.27	46.88	9.11	3.00	12.11	6,401.31
Fine Grading 07/01/2008- 08/31/2008	7.94	68.81	31.10	0.00	43.61	3.27	46.88	9.11	3.00	12.11	6,401.31
Fine Grading Dust	0.00	0.00	0.00	0.00	43.60	0.00	43.60	9.11	0.00	9.11	0.00
Fine Grading Off Road Diesel	7.86	68.66	28.68	0.00	0.00	3.26	3.26	0.00	3.00	3.00	6,152.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97

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Time Slice	11.72	89.30	43.94	0.01	43.63	4.92	48.55	9.12	4.53	13.64	8,223.84
Active Days:	11										
Time Slice 8/15/2008-8/29/2008											
Asphalt 08/15/2008-08/31/2008	3.78	20.50	12.84	0.01	0.02	1.65	1.68	0.01	1.52	1.53	1,822.53
Paving Off-Gas	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.99	17.76	9.40	0.00	0.00	1.54	1.54	0.00	1.41	1.41	1,272.04
Paving On Road Diesel	0.19	2.59	1.01	0.00	0.01	0.11	0.12	0.00	0.10	0.11	301.52
Paving Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97
Fine Grading 07/01/2008-08/31/2008	7.94	68.81	31.10	0.00	43.61	3.27	46.88	9.11	3.00	12.11	6,401.31
Fine Grading Dust	0.00	0.00	0.00	0.00	43.60	0.00	43.60	9.11	0.00	9.11	0.00
Fine Grading Off Road Diesel	7.86	68.66	28.68	0.00	0.00	3.26	3.26	0.00	3.00	3.00	6,152.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97
Time Slice 9/1/2008-12/31/2008	4.23	18.96	15.52	0.00	0.02	1.36	1.38	0.01	1.25	1.26	2,045.66
Active Days: 88											
Building 09/01/2008-06/30/2009	4.23	18.96	15.52	0.00	0.02	1.36	1.38	0.01	1.25	1.26	2,045.66
Building Off Road Diesel	4.07	18.22	11.80	0.00	0.00	1.33	1.33	0.00	1.22	1.22	1,621.20
Building Vendor Trips	0.05	0.53	0.43	0.00	0.00	0.02	0.03	0.00	0.02	0.02	86.82
Building Worker Trips	0.11	0.20	3.29	0.00	0.02	0.01	0.02	0.01	0.01	0.01	337.65
Time Slice 1/1/2009-6/12/2009	4.01	18.03	14.96	0.00	0.02	1.31	1.32	0.01	1.20	1.21	2,045.51
Active Days: 117											
Building 09/01/2008-06/30/2009	4.01	18.03	14.96	0.00	0.02	1.31	1.32	0.01	1.20	1.21	2,045.51
Building Off Road Diesel	3.87	17.35	11.50	0.00	0.00	1.28	1.28	0.00	1.17	1.17	1,621.20
Building Vendor Trips	0.04	0.50	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.82
Building Worker Trips	0.10	0.18	3.06	0.00	0.02	0.01	0.03	0.01	0.01	0.01	337.50

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Time Slice	79.70	18.09	15.96	0.01	0.02	1.31	1.33	0.01	1.20	1.21	2,155.38
6/15/2009-6/30/2009											
Active Days: 12											
Building 09/01/2008-06/30/2009	4.01	18.03	14.96	0.00	0.02	1.31	1.32	0.01	1.20	1.21	2,045.51
Building Off Road Diesel	3.87	17.35	11.50	0.00	0.00	1.28	1.28	0.00	1.17	1.17	1,621.20
Building Vendor Trips	0.04	0.50	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.82
Building Worker Trips	0.10	0.18	3.06	0.00	0.02	0.01	0.03	0.01	0.01	0.01	337.50
Coating 06/15/2009-06/30/2009	75.69	0.06	1.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	109.86
Architectural Coating	75.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	1.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	109.86

Phase Assumptions

- Phase: Demolition 1/1/2008 - 6/30/2008 - Default Demolition Description
- Building Volume Total (cubic feet): 2.966097E+07
- Building Volume Daily (cubic feet): 2053.35
- On Road Truck Travel (VMT): 28.52
- Off-Road Equipment:
 - 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
 - 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
 - 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
 - 1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
 - 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day
- Phase: Fine Grading 7/1/2008 - 8/31/2008 - Default Fine Site Grading/Excavation Description
- Total Acres Disturbed: 8.7
- Maximum Daily Acreage Disturbed: 2.18
- Fugitive Dust Level of Detail: Default
- 20 lbs per acre-day
- On Road Truck Travel (VMT): 0

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Off-Road Equipment:

- 2 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 8/15/2008 - 8/31/2008 - Type Your Description Here

Acres to be Paved: 2.18

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2008 - 6/30/2009 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/15/2009 - 6/30/2009 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2008-6/30/2008 Active Days: 130	5.29	33.72	20.31	0.00	0.88	0.21	1.09	0.18	0.20	0.38	4,638.07
Demolition 01/01/2008- 06/30/2008	5.29	33.72	20.31	0.00	0.88	0.21	1.09	0.18	0.20	0.38	4,638.07
Fugitive Dust	0.00	0.00	0.00	0.00	0.86	0.00	0.86	0.18	0.00	0.18	0.00
Demo Off Road Diesel	5.14	32.55	17.79	0.00	0.00	0.16	0.16	0.00	0.15	0.15	4,299.34
Demo On Road Diesel	0.08	1.04	0.41	0.00	0.00	0.05	0.05	0.00	0.04	0.04	120.87
Demo Worker Trips	0.07	0.13	2.12	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.85
Time Slice 7/1/2008-8/14/2008 Active Days: 33	7.94	49.75	31.10	0.00	3.05	0.25	3.30	0.64	0.23	0.87	6,401.31
Fine Grading 07/01/2008- 08/31/2008	7.94	49.75	31.10	0.00	3.05	0.25	3.30	0.64	0.23	0.87	6,401.31
Fine Grading Dust	0.00	0.00	0.00	0.00	3.04	0.00	3.04	0.63	0.00	0.63	0.00
Fine Grading Off Road Diesel	7.86	49.61	28.68	0.00	0.00	0.24	0.24	0.00	0.22	0.22	6,152.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97

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Time Slice 8/15/2008-8/29/2008 Active Days: 11	11.72	65.32	43.94	0.01	3.07	0.49	3.56	0.65	0.45	1.09	8,223.84
Asphalt 08/15/2008-08/31/2008	3.78	15.57	12.84	0.01	0.02	0.23	0.26	0.01	0.22	0.22	1,822.53
Paving Off-Gas	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.99	12.83	9.40	0.00	0.00	0.12	0.12	0.00	0.11	0.11	1,272.04
Paving On Road Diesel	0.19	2.59	1.01	0.00	0.01	0.11	0.12	0.00	0.10	0.11	301.52
Paving Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97
Fine Grading 07/01/2008-08/31/2008	7.94	49.75	31.10	0.00	3.05	0.25	3.30	0.64	0.23	0.87	6,401.31
Fine Grading Dust	0.00	0.00	0.00	0.00	3.04	0.00	3.04	0.63	0.00	0.63	0.00
Fine Grading Off Road Diesel	7.86	49.61	28.68	0.00	0.00	0.24	0.24	0.00	0.22	0.22	6,152.34
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.08	0.15	2.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.97
Time Slice 9/1/2008-12/31/2008 Active Days: 88	4.23	13.90	15.52	0.00	0.02	0.13	0.15	0.01	0.12	0.13	2,045.66
Building 09/01/2008-06/30/2009	4.23	13.90	15.52	0.00	0.02	0.13	0.15	0.01	0.12	0.13	2,045.66
Building Off Road Diesel	4.07	13.17	11.80	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,621.20
Building Vendor Trips	0.05	0.53	0.43	0.00	0.00	0.02	0.03	0.00	0.02	0.02	86.82
Building Worker Trips	0.11	0.20	3.29	0.00	0.02	0.01	0.02	0.01	0.01	0.01	337.65
Time Slice 1/1/2009-6/12/2009 Active Days: 117	4.01	13.22	14.96	0.00	0.02	0.13	0.14	0.01	0.12	0.12	2,045.51
Building 09/01/2008-06/30/2009	4.01	13.22	14.96	0.00	0.02	0.13	0.14	0.01	0.12	0.12	2,045.51
Building Off Road Diesel	3.87	12.53	11.50	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,621.20
Building Vendor Trips	0.04	0.50	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.82
Building Worker Trips	0.10	0.18	3.06	0.00	0.02	0.01	0.03	0.01	0.01	0.01	337.50

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Time Slice 6/15/2009-6/30/2009 Active Days: 12	<u>72.13</u>	<u>13.28</u>	<u>15.96</u>	<u>0.01</u>	<u>0.02</u>	<u>0.13</u>	<u>0.15</u>	<u>0.01</u>	<u>0.12</u>	<u>0.13</u>	<u>2,155.38</u>
Building 09/01/2008-06/30/2009	4.01	13.22	14.96	0.00	0.02	0.13	0.14	0.01	0.12	0.12	2,045.51
Building Off Road Diesel	3.87	12.53	11.50	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,621.20
Building Vendor Trips	0.04	0.50	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.82
Building Worker Trips	0.10	0.18	3.06	0.00	0.02	0.01	0.03	0.01	0.01	0.01	337.50
Coating 06/15/2009-06/30/2009	68.12	0.06	1.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	109.86
Architectural Coating	68.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	1.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	109.86

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 1/1/2008 - 6/30/2008 - Default Demolition Description

For Concrete/Industrial Saws, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:
NOX: 15%

For Off Highway Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Off Highway Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:
PM10: 85% PM25: 85%

For Off Highway Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Loaders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Loaders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Loaders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Fine Grading 7/1/2008 - 8/31/2008 - Default Fine Site Grading/Excavation Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

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PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Off Highway Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Off Highway Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Off Highway Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

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PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 8/15/2008 - 8/31/2008 - Type Your Description Here

For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

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For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 9/1/2008 - 6/30/2009 - Default Building Construction Description

For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Generator Sets, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Generator Sets, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Generator Sets, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Welders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

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NOX: 15% PM10: 50% PM25: 50%

For Welders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Welders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 6/15/2009 - 6/30/2009 - Default Architectural Coating Description

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.03	0.41	0.34	0.00	0.00	0.00	491.61
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.25						
TOTALS (lbs/day, unmitigated)	0.28	0.41	0.34	0.00	0.00	0.00	491.61

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Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.03	0.41	0.34	0.00	0.00	0.00	491.61
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.25						
TOTALS (lbs/day, mitigated)	0.28	0.41	0.34	0.00	0.00	0.00	491.61

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM25	CO2
Elementary school	6.84	10.44	71.20	0.05	10.27	2.03	5,598.11
TOTALS (lbs/day, unmitigated)	6.84	10.44	71.20	0.05	10.27	2.03	5,598.11

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

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Analysis Year: 2009 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Elementary school		14.49	1000 sq ft	42.38	614.09	5,913.65
					614.09	5,913.65

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0	2.0	97.6	0.4
Light Truck < 3750 lbs	10.9	3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	75.0	25.0
Life-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	77.1	22.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	10.0	80.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
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Operational Changes to Defaults