

Appendix C
Air Quality Modeling Results



Appendices

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Urbemis 2007 Version 9.2.4
 Combined Summer Emissions Reports (Pounds/Day)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Spring Trails_Mit.urb924
 Project Name: Spring Trails - Mit
 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

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>
2010 TOTALS (lbs/day unmitigated)	72.84	739.51	338.17	0.44	2,675.58	32.54	2,708.12	558.96	29.94	588.90	82,711.40
2010 TOTALS (lbs/day mitigated)	72.84	739.51	338.17	0.44	163.04	32.54	195.58	34.24	29.94	64.18	82,711.40
2011 TOTALS (lbs/day unmitigated)	12.12	66.39	85.66	0.09	0.37	4.43	4.81	0.13	4.07	4.20	13,546.08
2011 TOTALS (lbs/day mitigated)	12.12	66.39	85.66	0.09	0.37	4.43	4.81	0.13	4.07	4.20	13,546.08
2012 TOTALS (lbs/day unmitigated)	39.54	36.89	66.28	0.08	0.34	2.38	2.72	0.12	2.17	2.29	10,851.75
2012 TOTALS (lbs/day mitigated)	39.54	36.89	66.28	0.08	0.34	2.38	2.72	0.12	2.17	2.29	10,851.75
2013 TOTALS (lbs/day unmitigated)	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
2013 TOTALS (lbs/day mitigated)	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83

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)	21.13	5.53	16.97	0.00	0.05	0.05	6,865.07

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)	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58

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)	41.28	31.26	254.29	0.30	48.18	9.43	35,901.65

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/3/2010 Active	70.75	721.76	328.90	0.44	2,675.57	31.66	2,707.24	558.96	29.13	588.08	80,872.37
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	2,675.57	31.66	2,707.24	558.96	29.13	588.08	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	2,674.00	0.00	2,674.00	558.44	0.00	558.44	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Time Slice 6/4/2010-6/18/2010 Active	72.84	739.51	338.17	0.44	2,675.58	32.54	2,708.12	558.96	29.94	588.90	82,711.40
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	2,675.57	31.66	2,707.24	558.96	29.13	588.08	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	2,674.00	0.00	2,674.00	558.44	0.00	558.44	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 6/21/2010-9/21/2010	5.81	40.81	24.26	0.01	0.02	2.63	2.65	0.01	2.42	2.43	4,043.41
Asphalt 06/21/2010-09/21/2010	3.72	23.06	14.99	0.00	0.02	1.75	1.77	0.01	1.61	1.61	2,204.37
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.41	22.17	12.35	0.00	0.00	1.71	1.71	0.00	1.57	1.57	1,822.53
Paving On Road Diesel	0.06	0.75	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.96
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 9/22/2010-11/12/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/15/2010-11/15/2010	9.73	60.41	82.59	0.08	0.34	3.57	3.91	0.12	3.28	3.40	12,504.76
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

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Time Slice 11/16/2010-11/17/2010	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 11/18/2010-12/31/2010	12.94	71.11	90.49	0.09	0.37	4.70	5.07	0.13	4.31	4.44	13,547.40
Asphalt 11/18/2010-02/01/2011	5.29	28.45	17.16	0.01	0.04	2.01	2.04	0.01	1.84	1.86	2,881.67
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.55	22.93	12.73	0.00	0.00	1.78	1.78	0.00	1.64	1.64	1,869.24
Paving On Road Diesel	0.41	5.38	2.07	0.01	0.02	0.22	0.24	0.01	0.20	0.21	732.55
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 1/3/2011-2/1/2011 Active	<u>12.12</u>	<u>66.39</u>	<u>85.66</u>	<u>0.09</u>	<u>0.37</u>	<u>4.43</u>	<u>4.81</u>	<u>0.13</u>	<u>4.07</u>	<u>4.20</u>	<u>13,546.08</u>
Asphalt 11/18/2010-02/01/2011	5.05	26.71	16.68	0.01	0.04	1.91	1.94	0.01	1.75	1.77	2,881.61
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.34	21.74	12.62	0.00	0.00	1.70	1.70	0.00	1.57	1.57	1,869.24
Paving On Road Diesel	0.38	4.84	1.86	0.01	0.02	0.19	0.22	0.01	0.18	0.19	732.55
Paving Worker Trips	0.07	0.13	2.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.83
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 2/2/2011-12/30/2011	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 1/2/2012-4/13/2012 Active	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 4/16/2012-10/15/2012	<u>39.54</u>	<u>36.89</u>	<u>66.28</u>	<u>0.08</u>	<u>0.34</u>	<u>2.38</u>	<u>2.72</u>	<u>0.12</u>	<u>2.17</u>	<u>2.29</u>	<u>10,851.75</u>
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Coating 04/15/2012-10/15/2012	33.00	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Architectural Coating	32.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28

Time Slice 10/16/2012-12/31/2012	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 1/1/2013-4/24/2013 Active	<u>6.00</u>	<u>34.01</u>	<u>61.09</u>	<u>0.08</u>	<u>0.33</u>	<u>2.16</u>	<u>2.49</u>	<u>0.12</u>	<u>1.97</u>	<u>2.09</u>	<u>10,662.83</u>
Building 11/15/2010-04/24/2013	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
Building Off Road Diesel	4.27	25.81	16.03	0.00	0.00	1.76	1.76	0.00	1.62	1.62	3,225.57
Building Vendor Trips	0.56	5.96	5.10	0.01	0.05	0.24	0.30	0.02	0.22	0.24	1,546.94
Building Worker Trips	1.18	2.24	39.96	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,890.32

Phase Assumptions

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 224.3

Maximum Daily Acreage Disturbed: 70

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 10791.88

Off-Road Equipment:

8 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

8 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

8 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/4/2010 - 11/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 6/21/2010 - 9/21/2010 - Access Roads

Acres to be Paved: 4.49

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 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 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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Phase: Paving 11/18/2010 - 2/1/2011 - Default Paving Description

Acres to be Paved: 26

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 11/15/2010 - 4/24/2013 - Default Building Construction Description

Off-Road Equipment:

- 2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
- 2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
- 2 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

Phase: Architectural Coating 4/15/2012 - 10/15/2012 - 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

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

	<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 3/24/2010-6/3/2010 Active	70.75	721.76	328.90	0.44	163.03	31.66	194.70	34.24	29.13	63.37	80,872.37
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	163.03	31.66	194.70	34.24	29.13	63.37	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	161.46	0.00	161.46	33.72	0.00	33.72	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Time Slice 6/4/2010-6/18/2010 Active	72.84	739.51	338.17	0.44	163.04	32.54	195.58	34.24	29.94	64.18	82,711.40
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	163.03	31.66	194.70	34.24	29.13	63.37	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	161.46	0.00	161.46	33.72	0.00	33.72	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

Time Slice 6/21/2010-9/21/2010	5.81	40.81	24.26	0.01	0.02	2.63	2.65	0.01	2.42	2.43	4,043.41
Asphalt 06/21/2010-09/21/2010	3.72	23.06	14.99	0.00	0.02	1.75	1.77	0.01	1.61	1.61	2,204.37
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.41	22.17	12.35	0.00	0.00	1.71	1.71	0.00	1.57	1.57	1,822.53
Paving On Road Diesel	0.06	0.75	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.96
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 9/22/2010-11/12/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/15/2010-11/15/2010	9.73	60.41	82.59	0.08	0.34	3.57	3.91	0.12	3.28	3.40	12,504.76
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/16/2010-11/17/2010	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 11/18/2010-12/31/2010	12.94	71.11	90.49	0.09	0.37	4.70	5.07	0.13	4.31	4.44	13,547.40
Asphalt 11/18/2010-02/01/2011	5.29	28.45	17.16	0.01	0.04	2.01	2.04	0.01	1.84	1.86	2,881.67
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.55	22.93	12.73	0.00	0.00	1.78	1.78	0.00	1.64	1.64	1,869.24
Paving On Road Diesel	0.41	5.38	2.07	0.01	0.02	0.22	0.24	0.01	0.20	0.21	732.55
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32

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Time Slice 1/3/2011-2/1/2011 Active	<u>12.12</u>	<u>66.39</u>	<u>85.66</u>	<u>0.09</u>	<u>0.37</u>	<u>4.43</u>	<u>4.81</u>	<u>0.13</u>	<u>4.07</u>	<u>4.20</u>	<u>13,546.08</u>
Asphalt 11/18/2010-02/01/2011	5.05	26.71	16.68	0.01	0.04	1.91	1.94	0.01	1.75	1.77	2,881.61
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.34	21.74	12.62	0.00	0.00	1.70	1.70	0.00	1.57	1.57	1,869.24
Paving On Road Diesel	0.38	4.84	1.86	0.01	0.02	0.19	0.22	0.01	0.18	0.19	732.55
Paving Worker Trips	0.07	0.13	2.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.83
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 2/2/2011-12/30/2011	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 1/2/2012-4/13/2012 Active	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 4/16/2012-10/15/2012	<u>39.54</u>	<u>36.89</u>	<u>66.28</u>	<u>0.08</u>	<u>0.34</u>	<u>2.38</u>	<u>2.72</u>	<u>0.12</u>	<u>2.17</u>	<u>2.29</u>	<u>10,851.75</u>
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Coating 04/15/2012-10/15/2012	33.00	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Architectural Coating	32.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Time Slice 10/16/2012-12/31/2012	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 1/1/2013-4/24/2013 Active	<u>6.00</u>	<u>34.01</u>	<u>61.09</u>	<u>0.08</u>	<u>0.33</u>	<u>2.16</u>	<u>2.49</u>	<u>0.12</u>	<u>1.97</u>	<u>2.09</u>	<u>10,662.83</u>
Building 11/15/2010-04/24/2013	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
Building Off Road Diesel	4.27	25.81	16.03	0.00	0.00	1.76	1.76	0.00	1.62	1.62	3,225.57
Building Vendor Trips	0.56	5.96	5.10	0.01	0.05	0.24	0.30	0.02	0.22	0.24	1,546.94
Building Worker Trips	1.18	2.24	39.96	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,890.32

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass 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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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	0.41	5.36	2.28	0.00	0.01	0.01	6,841.49
Hearth - No Summer Emissions							
Landscape	2.65	0.17	14.69	0.00	0.04	0.04	23.58
Consumer Products	16.88						
Architectural Coatings	1.19						
TOTALS (lbs/day, unmitigated)	21.13	5.53	16.97	0.00	0.05	0.05	6,865.07

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58
TOTALS (lbs/day, unmitigated)	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 80 Season: Summer

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
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	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	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		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)

Operational Changes to Defaults

Urbemis 2007 Version 9.2.4
Combined Winter Emissions Reports (Pounds/Day)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Spring Trails_Mit.urb924
Project Name: Spring Trails - Mit
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

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>
2010 TOTALS (lbs/day unmitigated)	72.84	739.51	338.17	0.44	2,675.58	32.54	2,708.12	558.96	29.94	588.90	82,711.40
2010 TOTALS (lbs/day mitigated)	72.84	739.51	338.17	0.44	163.04	32.54	195.58	34.24	29.94	64.18	82,711.40
2011 TOTALS (lbs/day unmitigated)	12.12	66.39	85.66	0.09	0.37	4.43	4.81	0.13	4.07	4.20	13,546.08
2011 TOTALS (lbs/day mitigated)	12.12	66.39	85.66	0.09	0.37	4.43	4.81	0.13	4.07	4.20	13,546.08
2012 TOTALS (lbs/day unmitigated)	39.54	36.89	66.28	0.08	0.34	2.38	2.72	0.12	2.17	2.29	10,851.75
2012 TOTALS (lbs/day mitigated)	39.54	36.89	66.28	0.08	0.34	2.38	2.72	0.12	2.17	2.29	10,851.75
2013 TOTALS (lbs/day unmitigated)	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
2013 TOTALS (lbs/day mitigated)	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83

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)	18.64	8.09	3.44	0.02	0.23	0.23	10,325.02

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)	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77

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)	40.29	39.02	230.27	0.27	48.36	9.61	36,636.79

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Construction Unmitigated Detail Report:

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 3/24/2010-6/3/2010 Active	70.75	721.76	328.90	0.44	2,675.57	31.66	2,707.24	558.96	29.13	588.08	80,872.37
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	2,675.57	31.66	2,707.24	558.96	29.13	588.08	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	2,674.00	0.00	2,674.00	558.44	0.00	558.44	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Time Slice 6/4/2010-6/18/2010 Active	72.84	739.51	338.17	0.44	2,675.58	32.54	2,708.12	558.96	29.94	588.90	82,711.40
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	2,675.57	31.66	2,707.24	558.96	29.13	588.08	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	2,674.00	0.00	2,674.00	558.44	0.00	558.44	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 6/21/2010-9/21/2010	5.81	40.81	24.26	0.01	0.02	2.63	2.65	0.01	2.42	2.43	4,043.41
Asphalt 06/21/2010-09/21/2010	3.72	23.06	14.99	0.00	0.02	1.75	1.77	0.01	1.61	1.61	2,204.37
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.41	22.17	12.35	0.00	0.00	1.71	1.71	0.00	1.57	1.57	1,822.53
Paving On Road Diesel	0.06	0.75	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.96
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 9/22/2010-11/12/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/15/2010-11/15/2010	9.73	60.41	82.59	0.08	0.34	3.57	3.91	0.12	3.28	3.40	12,504.76
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

Time Slice 11/16/2010-11/17/2010	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 11/18/2010-12/31/2010	12.94	71.11	90.49	0.09	0.37	4.70	5.07	0.13	4.31	4.44	13,547.40
Asphalt 11/18/2010-02/01/2011	5.29	28.45	17.16	0.01	0.04	2.01	2.04	0.01	1.84	1.86	2,881.67
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.55	22.93	12.73	0.00	0.00	1.78	1.78	0.00	1.64	1.64	1,869.24
Paving On Road Diesel	0.41	5.38	2.07	0.01	0.02	0.22	0.24	0.01	0.20	0.21	732.55
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 1/3/2011-2/1/2011 Active	<u>12.12</u>	<u>66.39</u>	<u>85.66</u>	<u>0.09</u>	<u>0.37</u>	<u>4.43</u>	<u>4.81</u>	<u>0.13</u>	<u>4.07</u>	<u>4.20</u>	<u>13,546.08</u>
Asphalt 11/18/2010-02/01/2011	5.05	26.71	16.68	0.01	0.04	1.91	1.94	0.01	1.75	1.77	2,881.61
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.34	21.74	12.62	0.00	0.00	1.70	1.70	0.00	1.57	1.57	1,869.24
Paving On Road Diesel	0.38	4.84	1.86	0.01	0.02	0.19	0.22	0.01	0.18	0.19	732.55
Paving Worker Trips	0.07	0.13	2.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.83
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 2/2/2011-12/30/2011	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 1/2/2012-4/13/2012 Active	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02

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Time Slice 4/16/2012-10/15/2012	<u>39.54</u>	<u>36.89</u>	<u>66.28</u>	<u>0.08</u>	<u>0.34</u>	<u>2.38</u>	<u>2.72</u>	<u>0.12</u>	<u>2.17</u>	<u>2.29</u>	<u>10,851.75</u>
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Coating 04/15/2012-10/15/2012	33.00	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Architectural Coating	32.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Time Slice 10/16/2012-12/31/2012	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 1/1/2013-4/24/2013 Active	<u>6.00</u>	<u>34.01</u>	<u>61.09</u>	<u>0.08</u>	<u>0.33</u>	<u>2.16</u>	<u>2.49</u>	<u>0.12</u>	<u>1.97</u>	<u>2.09</u>	<u>10,662.83</u>
Building 11/15/2010-04/24/2013	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
Building Off Road Diesel	4.27	25.81	16.03	0.00	0.00	1.76	1.76	0.00	1.62	1.62	3,225.57
Building Vendor Trips	0.56	5.96	5.10	0.01	0.05	0.24	0.30	0.02	0.22	0.24	1,546.94
Building Worker Trips	1.18	2.24	39.96	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,890.32

Phase Assumptions

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 224.3

Maximum Daily Acreage Disturbed: 70

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 10791.88

Off-Road Equipment:

8 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

8 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

8 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/4/2010 - 11/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

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Phase: Paving 6/21/2010 - 9/21/2010 - Access Roads

Acres to be Paved: 4.49

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Graders (174 hp) operating at a 0.61 load factor for 8 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 6 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Paving 11/18/2010 - 2/1/2011 - Default Paving Description

Acres to be Paved: 26

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 11/15/2010 - 4/24/2013 - Default Building Construction Description

Off-Road Equipment:

2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
2 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

Phase: Architectural Coating 4/15/2012 - 10/15/2012 - 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

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 3/24/2010-6/3/2010 Active	70.75	721.76	328.90	0.44	163.03	31.66	194.70	34.24	29.13	63.37	80,872.37
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	163.03	31.66	194.70	34.24	29.13	63.37	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	161.46	0.00	161.46	33.72	0.00	33.72	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35

Time Slice 6/4/2010-6/18/2010 Active	<u>72.84</u>	<u>739.51</u>	<u>338.17</u>	<u>0.44</u>	<u>163.04</u>	<u>32.54</u>	<u>195.58</u>	<u>34.24</u>	<u>29.94</u>	<u>64.18</u>	<u>82,711.40</u>
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	163.03	31.66	194.70	34.24	29.13	63.37	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	161.46	0.00	161.46	33.72	0.00	33.72	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 6/21/2010-9/21/2010	5.81	40.81	24.26	0.01	0.02	2.63	2.65	0.01	2.42	2.43	4,043.41
Asphalt 06/21/2010-09/21/2010	3.72	23.06	14.99	0.00	0.02	1.75	1.77	0.01	1.61	1.61	2,204.37
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.41	22.17	12.35	0.00	0.00	1.71	1.71	0.00	1.57	1.57	1,822.53
Paving On Road Diesel	0.06	0.75	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.96
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 9/22/2010-11/12/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/15/2010-11/15/2010	9.73	60.41	82.59	0.08	0.34	3.57	3.91	0.12	3.28	3.40	12,504.76
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/16/2010-11/17/2010	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32

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Time Slice 11/18/2010-12/31/2010	12.94	71.11	90.49	0.09	0.37	4.70	5.07	0.13	4.31	4.44	13,547.40
Asphalt 11/18/2010-02/01/2011	5.29	28.45	17.16	0.01	0.04	2.01	2.04	0.01	1.84	1.86	2,881.67
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.55	22.93	12.73	0.00	0.00	1.78	1.78	0.00	1.64	1.64	1,869.24
Paving On Road Diesel	0.41	5.38	2.07	0.01	0.02	0.22	0.24	0.01	0.20	0.21	732.55
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 1/3/2011-2/1/2011 Active	<u>12.12</u>	<u>66.39</u>	<u>85.66</u>	<u>0.09</u>	<u>0.37</u>	<u>4.43</u>	<u>4.81</u>	<u>0.13</u>	<u>4.07</u>	<u>4.20</u>	<u>13,546.08</u>
Asphalt 11/18/2010-02/01/2011	5.05	26.71	16.68	0.01	0.04	1.91	1.94	0.01	1.75	1.77	2,881.61
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.34	21.74	12.62	0.00	0.00	1.70	1.70	0.00	1.57	1.57	1,869.24
Paving On Road Diesel	0.38	4.84	1.86	0.01	0.02	0.19	0.22	0.01	0.18	0.19	732.55
Paving Worker Trips	0.07	0.13	2.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.83
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 2/2/2011-12/30/2011	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 1/2/2012-4/13/2012 Active	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 4/16/2012-10/15/2012	<u>39.54</u>	<u>36.89</u>	<u>66.28</u>	<u>0.08</u>	<u>0.34</u>	<u>2.38</u>	<u>2.72</u>	<u>0.12</u>	<u>2.17</u>	<u>2.29</u>	<u>10,851.75</u>
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Coating 04/15/2012-10/15/2012	33.00	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Architectural Coating	32.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28

Time Slice 10/16/2012-12/31/2012	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 1/1/2013-4/24/2013 Active	<u>6.00</u>	<u>34.01</u>	<u>61.09</u>	<u>0.08</u>	<u>0.33</u>	<u>2.16</u>	<u>2.49</u>	<u>0.12</u>	<u>1.97</u>	<u>2.09</u>	<u>10,662.83</u>
Building 11/15/2010-04/24/2013	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
Building Off Road Diesel	4.27	25.81	16.03	0.00	0.00	1.76	1.76	0.00	1.62	1.62	3,225.57
Building Vendor Trips	0.56	5.96	5.10	0.01	0.05	0.24	0.30	0.02	0.22	0.24	1,546.94
Building Worker Trips	1.18	2.24	39.96	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,890.32

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass 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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.41	5.36	2.28	0.00	0.01	0.01	6,841.49
Hearth	0.16	2.73	1.16	0.02	0.22	0.22	3,483.53
Landscaping - No Winter Emissions							
Consumer Products	16.88						
Architectural Coatings	1.19						
TOTALS (lbs/day, unmitigated)	18.64	8.09	3.44	0.02	0.23	0.23	10,325.02

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%
 Percentage of residences with wood fireplaces changed from 5% to 0%
 Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77
TOTALS (lbs/day, unmitigated)	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77

Operational Settings:

Includes correction for passby trips
 Does not include double counting adjustment for internal trips
 Analysis Year: 2013 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
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	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	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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)

Operational Changes to Defaults

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Spring Trails_Mit.urb924

Project Name: Spring Trails - Mit

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

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>
2010 TOTALS (tons/year unmitigated)	2.69	25.75	12.96	0.02	84.29	1.19	85.47	17.61	1.09	18.70	2,961.67
2010 TOTALS (tons/year mitigated)	2.69	25.75	12.96	0.02	5.14	1.19	6.33	1.08	1.09	2.17	2,961.67
Percent Reduction	0.00	0.00	0.00	0.00	93.90	0.00	92.59	93.86	0.00	88.38	0.00
2011 TOTALS (tons/year unmitigated)	0.97	5.45	9.15	0.01	0.04	0.35	0.39	0.02	0.32	0.34	1,418.08
2011 TOTALS (tons/year mitigated)	0.97	5.45	9.15	0.01	0.04	0.35	0.39	0.02	0.32	0.34	1,418.08
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012 TOTALS (tons/year unmitigated)	3.02	4.81	8.56	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,403.92
2012 TOTALS (tons/year mitigated)	3.02	4.81	8.56	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,403.92
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013 TOTALS (tons/year unmitigated)	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
2013 TOTALS (tons/year mitigated)	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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 (tons/year, unmitigated)	3.86	1.01	3.10	0.00	0.01	0.01	1,254.61

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 (tons/year, unmitigated)	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42

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 (tons/year, unmitigated)	7.63	6.02	45.77	0.05	8.79	1.72	6,388.03

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, 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>
2010	2.69	25.75	12.96	0.02	84.29	1.19	85.47	17.61	1.09	18.70	2,961.67
Mass Grading 03/24/2010-	2.23	22.74	10.36	0.01	84.28	1.00	85.28	17.61	0.92	18.52	2,547.48
Mass Grading Dust	0.00	0.00	0.00	0.00	84.23	0.00	84.23	17.59	0.00	17.59	0.00
Mass Grading Off Road Diesel	1.41	12.13	6.01	0.00	0.00	0.56	0.56	0.00	0.52	0.52	1,073.35
Mass Grading On Road Diesel	0.81	10.59	4.07	0.01	0.05	0.43	0.48	0.02	0.40	0.41	1,440.82
Mass Grading Worker Trips	0.01	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.31
Trenching 06/04/2010-11/15/2010	0.12	1.04	0.54	0.00	0.00	0.05	0.05	0.00	0.05	0.05	107.58
Trenching Off Road Diesel	0.12	1.03	0.48	0.00	0.00	0.05	0.05	0.00	0.05	0.05	100.31
Trenching Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.28
Asphalt 06/21/2010-09/21/2010	0.12	0.77	0.50	0.00	0.00	0.06	0.06	0.00	0.05	0.05	73.85
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.11	0.74	0.41	0.00	0.00	0.06	0.06	0.00	0.05	0.05	61.05
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.42
Paving Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.38
Building 11/15/2010-04/24/2013	0.13	0.75	1.28	0.00	0.01	0.05	0.05	0.00	0.04	0.05	186.65
Building Off Road Diesel	0.09	0.55	0.30	0.00	0.00	0.04	0.04	0.00	0.04	0.04	56.45
Building Vendor Trips	0.01	0.15	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	27.07
Building Worker Trips	0.03	0.05	0.87	0.00	0.00	0.00	0.01	0.00	0.00	0.00	103.13
Asphalt 11/18/2010-02/01/2011	0.08	0.46	0.27	0.00	0.00	0.03	0.03	0.00	0.03	0.03	46.11
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.06	0.37	0.20	0.00	0.00	0.03	0.03	0.00	0.03	0.03	29.91
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.72
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.48
2011	0.97	5.45	9.15	0.01	0.04	0.35	0.39	0.02	0.32	0.34	1,418.08
Asphalt 11/18/2010-02/01/2011	0.06	0.29	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	31.70
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.04	0.24	0.14	0.00	0.00	0.02	0.02	0.00	0.02	0.02	20.56
Paving On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.06
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.08
Building 11/15/2010-04/24/2013	0.92	5.16	8.97	0.01	0.04	0.33	0.37	0.02	0.30	0.32	1,386.38
Building Off Road Diesel	0.65	3.83	2.18	0.00	0.00	0.27	0.27	0.00	0.25	0.25	419.32
Building Vendor Trips	0.09	0.98	0.78	0.00	0.01	0.04	0.05	0.00	0.04	0.04	201.09
Building Worker Trips	0.19	0.35	6.01	0.01	0.04	0.02	0.06	0.01	0.02	0.03	765.97

2012	3.02	4.81	8.56	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,403.92
Building 11/15/2010-04/24/2013	0.85	4.80	8.47	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,391.58
Building Off Road Diesel	0.60	3.60	2.14	0.00	0.00	0.25	0.25	0.00	0.23	0.23	420.94
Building Vendor Trips	0.08	0.88	0.72	0.00	0.01	0.04	0.04	0.00	0.03	0.04	201.87
Building Worker Trips	0.17	0.32	5.61	0.01	0.04	0.02	0.06	0.01	0.02	0.03	768.78
Coating 04/15/2012-10/15/2012	2.16	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.33
Architectural Coating	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.33
2013	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Building 11/15/2010-04/24/2013	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Building Off Road Diesel	0.17	1.06	0.66	0.00	0.00	0.07	0.07	0.00	0.07	0.07	132.25
Building Vendor Trips	0.02	0.24	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	63.42
Building Worker Trips	0.05	0.09	1.64	0.00	0.01	0.01	0.02	0.00	0.01	0.01	241.50

Phase Assumptions

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 224.3

Maximum Daily Acreage Disturbed: 70

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 10791.88

Off-Road Equipment:

8 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

8 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

8 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/4/2010 - 11/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 6/21/2010 - 9/21/2010 - Access Roads

Acres to be Paved: 4.49

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 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 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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Building 11/15/2010-04/24/2013	0.13	0.75	1.28	0.00	0.01	0.05	0.05	0.00	0.04	0.05	186.65
Building Off Road Diesel	0.09	0.55	0.30	0.00	0.00	0.04	0.04	0.00	0.04	0.04	56.45
Building Vendor Trips	0.01	0.15	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	27.07
Building Worker Trips	0.03	0.05	0.87	0.00	0.00	0.00	0.01	0.00	0.00	0.00	103.13
Asphalt 11/18/2010-02/01/2011	0.08	0.46	0.27	0.00	0.00	0.03	0.03	0.00	0.03	0.03	46.11
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.06	0.37	0.20	0.00	0.00	0.03	0.03	0.00	0.03	0.03	29.91
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.72
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.48
2011	0.97	5.45	9.15	0.01	0.04	0.35	0.39	0.02	0.32	0.34	1,418.08
Asphalt 11/18/2010-02/01/2011	0.06	0.29	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	31.70
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.04	0.24	0.14	0.00	0.00	0.02	0.02	0.00	0.02	0.02	20.56
Paving On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.06
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.08
Building 11/15/2010-04/24/2013	0.92	5.16	8.97	0.01	0.04	0.33	0.37	0.02	0.30	0.32	1,386.38
Building Off Road Diesel	0.65	3.83	2.18	0.00	0.00	0.27	0.27	0.00	0.25	0.25	419.32
Building Vendor Trips	0.09	0.98	0.78	0.00	0.01	0.04	0.05	0.00	0.04	0.04	201.09
Building Worker Trips	0.19	0.35	6.01	0.01	0.04	0.02	0.06	0.01	0.02	0.03	765.97
2012	3.02	4.81	8.56	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,403.92
Building 11/15/2010-04/24/2013	0.85	4.80	8.47	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,391.58
Building Off Road Diesel	0.60	3.60	2.14	0.00	0.00	0.25	0.25	0.00	0.23	0.23	420.94
Building Vendor Trips	0.08	0.88	0.72	0.00	0.01	0.04	0.04	0.00	0.03	0.04	201.87
Building Worker Trips	0.17	0.32	5.61	0.01	0.04	0.02	0.06	0.01	0.02	0.03	768.78
Coating 04/15/2012-10/15/2012	2.16	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.33
Architectural Coating	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.33
2013	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Building 11/15/2010-04/24/2013	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Building Off Road Diesel	0.17	1.06	0.66	0.00	0.00	0.07	0.07	0.00	0.07	0.07	132.25
Building Vendor Trips	0.02	0.24	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	63.42
Building Worker Trips	0.05	0.09	1.64	0.00	0.01	0.01	0.02	0.00	0.01	0.01	241.50

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass 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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.08	0.98	0.42	0.00	0.00	0.00	1,248.57
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	1.74
Landscape	0.48	0.03	2.68	0.00	0.01	0.01	4.30
Consumer Products	3.08						
Architectural Coatings	0.22						
TOTALS (tons/year, unmitigated)	3.86	1.01	3.10	0.00	0.01	0.01	1,254.61

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42
TOTALS (tons/year, unmitigated)	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

Erfac: Version : Erfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3		0.4	99.4	0.2
Light Truck < 3750 lbs	7.3		1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1		0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7		0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6		0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5		0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9		0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6		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	2.8		53.6	46.4	0.0
School Bus	0.1		0.0	0.0	100.0
Motor Home	0.9		0.0	88.9	11.1

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)

Operational Changes to Defaults

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Acreage Disturbed Run\Spring Trails_Unmit_30run.urb924

Project Name: Spring Trails - Unmit

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

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>
2010 TOTALS (lbs/day unmitigated)	72.84	739.51	338.17	0.44	1,338.58	32.54	1,371.12	279.74	29.94	309.68	82,711.40
2010 TOTALS (lbs/day mitigated)	72.84	739.51	338.17	0.44	82.31	32.54	114.85	17.38	29.94	47.32	82,711.40
2011 TOTALS (lbs/day unmitigated)	12.12	66.39	85.66	0.09	0.37	4.43	4.81	0.13	4.07	4.20	13,546.08
2011 TOTALS (lbs/day mitigated)	12.12	66.39	85.66	0.09	0.37	4.43	4.81	0.13	4.07	4.20	13,546.08
2012 TOTALS (lbs/day unmitigated)	39.54	36.89	66.28	0.08	0.34	2.38	2.72	0.12	2.17	2.29	10,851.75
2012 TOTALS (lbs/day mitigated)	39.54	36.89	66.28	0.08	0.34	2.38	2.72	0.12	2.17	2.29	10,851.75
2013 TOTALS (lbs/day unmitigated)	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
2013 TOTALS (lbs/day mitigated)	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83

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)	21.13	5.53	16.97	0.00	0.05	0.05	6,865.07

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)	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58

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)	41.28	31.26	254.29	0.30	48.18	9.43	35,901.65

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

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	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/3/2010 Active	70.75	721.76	328.90	0.44	1,338.57	31.66	1,370.24	279.74	29.13	308.87	80,872.37
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	1,338.57	31.66	1,370.24	279.74	29.13	308.87	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	1,337.00	0.00	1,337.00	279.22	0.00	279.22	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Time Slice 6/4/2010-6/18/2010 Active	72.84	739.51	338.17	0.44	1,338.58	32.54	1,371.12	279.74	29.94	309.68	82,711.40
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	1,338.57	31.66	1,370.24	279.74	29.13	308.87	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	1,337.00	0.00	1,337.00	279.22	0.00	279.22	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 6/21/2010-9/21/2010 Active	5.81	40.81	24.26	0.01	0.02	2.63	2.65	0.01	2.42	2.43	4,043.41
Asphalt 06/21/2010-09/21/2010	3.72	23.06	14.99	0.00	0.02	1.75	1.77	0.01	1.61	1.61	2,204.37
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.41	22.17	12.35	0.00	0.00	1.71	1.71	0.00	1.57	1.57	1,822.53
Paving On Road Diesel	0.06	0.75	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.96
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 9/22/2010-11/12/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/15/2010-11/15/2010	9.73	60.41	82.59	0.08	0.34	3.57	3.91	0.12	3.28	3.40	12,504.76
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

Time Slice 11/16/2010-11/17/2010	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
- Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
- Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
- Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
- Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 11/18/2010-12/31/2010	12.94	71.11	90.49	0.09	0.37	4.70	5.07	0.13	4.31	4.44	13,547.40
- Asphalt 11/18/2010-02/01/2011	5.29	28.45	17.16	0.01	0.04	2.01	2.04	0.01	1.84	1.86	2,881.67
- Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- Paving Off Road Diesel	3.55	22.93	12.73	0.00	0.00	1.78	1.78	0.00	1.64	1.64	1,869.24
- Paving On Road Diesel	0.41	5.38	2.07	0.01	0.02	0.22	0.24	0.01	0.20	0.21	732.55
- Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
- Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
- Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
- Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
- Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 1/3/2011-2/1/2011 Active	<u>12.12</u>	<u>66.39</u>	<u>85.66</u>	<u>0.09</u>	<u>0.37</u>	<u>4.43</u>	<u>4.81</u>	<u>0.13</u>	<u>4.07</u>	<u>4.20</u>	<u>13,546.08</u>
- Asphalt 11/18/2010-02/01/2011	5.05	26.71	16.68	0.01	0.04	1.91	1.94	0.01	1.75	1.77	2,881.61
- Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- Paving Off Road Diesel	3.34	21.74	12.62	0.00	0.00	1.70	1.70	0.00	1.57	1.57	1,869.24
- Paving On Road Diesel	0.38	4.84	1.86	0.01	0.02	0.19	0.22	0.01	0.18	0.19	732.55
- Paving Worker Trips	0.07	0.13	2.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.83
- Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
- Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
- Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
- Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 2/2/2011-12/30/2011 Active	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
- Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
- Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
- Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
- Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 1/2/2012-4/13/2012 Active	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
- Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
- Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
- Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
- Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 4/16/2012-10/15/2012	<u>39.54</u>	<u>36.89</u>	<u>66.28</u>	<u>0.08</u>	<u>0.34</u>	<u>2.38</u>	<u>2.72</u>	<u>0.12</u>	<u>2.17</u>	<u>2.29</u>	<u>10,851.75</u>
- Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
- Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
- Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
- Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
- Coating 04/15/2012-10/15/2012	33.00	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
- Architectural Coating	32.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- Coating Worker Trips	0.04	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28

Time Slice 10/16/2012-12/31/2012	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 1/1/2013-4/24/2013 Active	<u>6.00</u>	<u>34.01</u>	<u>61.09</u>	<u>0.08</u>	<u>0.33</u>	<u>2.16</u>	<u>2.49</u>	<u>0.12</u>	<u>1.97</u>	<u>2.09</u>	<u>10,662.83</u>
Building 11/15/2010-04/24/2013	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
Building Off Road Diesel	4.27	25.81	16.03	0.00	0.00	1.76	1.76	0.00	1.62	1.62	3,225.57
Building Vendor Trips	0.56	5.96	5.10	0.01	0.05	0.24	0.30	0.02	0.22	0.24	1,546.94
Building Worker Trips	1.18	2.24	39.96	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,890.32

Phase Assumptions

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 224.3

Maximum Daily Acreage Disturbed: 35

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 10791.88

Off-Road Equipment:

8 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

8 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

8 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/4/2010 - 11/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 6/21/2010 - 9/21/2010 - Access Roads

Acres to be Paved: 4.49

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 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 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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Phase: Paving 11/18/2010 - 2/1/2011 - Default Paving Description

Acres to be Paved: 26

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 11/15/2010 - 4/24/2013 - Default Building Construction Description

Off-Road Equipment:

- 2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
- 2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
- 2 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

Phase: Architectural Coating 4/15/2012 - 10/15/2012 - 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

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

	<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 3/24/2010-6/3/2010 Active	70.75	721.76	328.90	0.44	82.30	31.66	113.97	17.38	29.13	46.51	80,872.37
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	82.30	31.66	113.97	17.38	29.13	46.51	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	80.73	0.00	80.73	16.86	0.00	16.86	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Time Slice 6/4/2010-6/18/2010 Active	72.84	739.51	338.17	0.44	82.31	32.54	114.85	17.38	29.94	47.32	82,711.40
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	82.30	31.66	113.97	17.38	29.13	46.51	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	80.73	0.00	80.73	16.86	0.00	16.86	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

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Time Slice 6/21/2010-9/21/2010 Active	5.81	40.81	24.26	0.01	0.02	2.63	2.65	0.01	2.42	2.43	4,043.41
Asphalt 06/21/2010-09/21/2010	3.72	23.06	14.99	0.00	0.02	1.75	1.77	0.01	1.61	1.61	2,204.37
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.41	22.17	12.35	0.00	0.00	1.71	1.71	0.00	1.57	1.57	1,822.53
Paving On Road Diesel	0.06	0.75	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.96
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 9/22/2010-11/12/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/15/2010-11/15/2010	9.73	60.41	82.59	0.08	0.34	3.57	3.91	0.12	3.28	3.40	12,504.76
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/16/2010-11/17/2010	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 11/18/2010-12/31/2010	12.94	71.11	90.49	0.09	0.37	4.70	5.07	0.13	4.31	4.44	13,547.40
Asphalt 11/18/2010-02/01/2011	5.29	28.45	17.16	0.01	0.04	2.01	2.04	0.01	1.84	1.86	2,881.67
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.55	22.93	12.73	0.00	0.00	1.78	1.78	0.00	1.64	1.64	1,869.24
Paving On Road Diesel	0.41	5.38	2.07	0.01	0.02	0.22	0.24	0.01	0.20	0.21	732.55
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32

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Time Slice 1/3/2011-2/1/2011 Active	<u>12.12</u>	<u>66.39</u>	<u>85.66</u>	<u>0.09</u>	<u>0.37</u>	<u>4.43</u>	<u>4.81</u>	<u>0.13</u>	<u>4.07</u>	<u>4.20</u>	<u>13,546.08</u>
- Asphalt 11/18/2010-02/01/2011	5.05	26.71	16.68	0.01	0.04	1.91	1.94	0.01	1.75	1.77	2,881.61
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.34	21.74	12.62	0.00	0.00	1.70	1.70	0.00	1.57	1.57	1,869.24
Paving On Road Diesel	0.38	4.84	1.86	0.01	0.02	0.19	0.22	0.01	0.18	0.19	732.55
Paving Worker Trips	0.07	0.13	2.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.83
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 2/2/2011-12/30/2011 Active	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 1/2/2012-4/13/2012 Active	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 4/16/2012-10/15/2012	<u>39.54</u>	<u>36.89</u>	<u>66.28</u>	<u>0.08</u>	<u>0.34</u>	<u>2.38</u>	<u>2.72</u>	<u>0.12</u>	<u>2.17</u>	<u>2.29</u>	<u>10,851.75</u>
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Coating 04/15/2012-10/15/2012	33.00	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Architectural Coating	32.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Time Slice 10/16/2012-12/31/2012	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 1/1/2013-4/24/2013 Active	<u>6.00</u>	<u>34.01</u>	<u>61.09</u>	<u>0.08</u>	<u>0.33</u>	<u>2.16</u>	<u>2.49</u>	<u>0.12</u>	<u>1.97</u>	<u>2.09</u>	<u>10,662.83</u>
Building 11/15/2010-04/24/2013	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
Building Off Road Diesel	4.27	25.81	16.03	0.00	0.00	1.76	1.76	0.00	1.62	1.62	3,225.57
Building Vendor Trips	0.56	5.96	5.10	0.01	0.05	0.24	0.30	0.02	0.22	0.24	1,546.94
Building Worker Trips	1.18	2.24	39.96	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,890.32

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass 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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.41	5.36	2.28	0.00	0.01	0.01	6,841.49
Hearth - No Summer Emissions							
Landscape	2.65	0.17	14.69	0.00	0.04	0.04	23.58
Consumer Products	16.88						
Architectural Coatings	1.19						
TOTALS (lbs/day, unmitigated)	21.13	5.53	16.97	0.00	0.05	0.05	6,865.07

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58
TOTALS (lbs/day, unmitigated)	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 80 Season: Summer

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
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	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	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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)

Operational Changes to Defaults

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Acreage Disturbed Run\Spring Trails_Unmit_30run.urb924

Project Name: Spring Trails - Unmit

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

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>
2010 TOTALS (lbs/day unmitigated)	72.84	739.51	338.17	0.44	1,338.58	32.54	1,371.12	279.74	29.94	309.68	82,711.40
2010 TOTALS (lbs/day mitigated)	72.84	739.51	338.17	0.44	82.31	32.54	114.85	17.38	29.94	47.32	82,711.40
2011 TOTALS (lbs/day unmitigated)	12.12	66.39	85.66	0.09	0.37	4.43	4.81	0.13	4.07	4.20	13,546.08
2011 TOTALS (lbs/day mitigated)	12.12	66.39	85.66	0.09	0.37	4.43	4.81	0.13	4.07	4.20	13,546.08
2012 TOTALS (lbs/day unmitigated)	39.54	36.89	66.28	0.08	0.34	2.38	2.72	0.12	2.17	2.29	10,851.75
2012 TOTALS (lbs/day mitigated)	39.54	36.89	66.28	0.08	0.34	2.38	2.72	0.12	2.17	2.29	10,851.75
2013 TOTALS (lbs/day unmitigated)	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
2013 TOTALS (lbs/day mitigated)	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83

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)	18.64	8.09	3.44	0.02	0.23	0.23	10,325.02

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)	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77

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)	40.29	39.02	230.27	0.27	48.36	9.61	36,636.79

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Construction Unmitigated Detail Report:

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 3/24/2010-6/3/2010 Active	70.75	721.76	328.90	0.44	1,338.57	31.66	1,370.24	279.74	29.13	308.87	80,872.37
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	1,338.57	31.66	1,370.24	279.74	29.13	308.87	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	1,337.00	0.00	1,337.00	279.22	0.00	279.22	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Time Slice 6/4/2010-6/18/2010 Active	72.84	739.51	338.17	0.44	1,338.58	32.54	1,371.12	279.74	29.94	309.68	82,711.40
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	1,338.57	31.66	1,370.24	279.74	29.13	308.87	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	1,337.00	0.00	1,337.00	279.22	0.00	279.22	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 6/21/2010-9/21/2010 Active	5.81	40.81	24.26	0.01	0.02	2.63	2.65	0.01	2.42	2.43	4,043.41
Asphalt 06/21/2010-09/21/2010	3.72	23.06	14.99	0.00	0.02	1.75	1.77	0.01	1.61	1.61	2,204.37
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.41	22.17	12.35	0.00	0.00	1.71	1.71	0.00	1.57	1.57	1,822.53
Paving On Road Diesel	0.06	0.75	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.96
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 9/22/2010-11/12/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/15/2010-11/15/2010	9.73	60.41	82.59	0.08	0.34	3.57	3.91	0.12	3.28	3.40	12,504.76
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

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Time Slice 11/16/2010-11/17/2010	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
- Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
- Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
- Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
- Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 11/18/2010-12/31/2010	12.94	71.11	90.49	0.09	0.37	4.70	5.07	0.13	4.31	4.44	13,547.40
- Asphalt 11/18/2010-02/01/2011	5.29	28.45	17.16	0.01	0.04	2.01	2.04	0.01	1.84	1.86	2,881.67
- Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- Paving Off Road Diesel	3.55	22.93	12.73	0.00	0.00	1.78	1.78	0.00	1.64	1.64	1,869.24
- Paving On Road Diesel	0.41	5.38	2.07	0.01	0.02	0.22	0.24	0.01	0.20	0.21	732.55
- Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
- Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
- Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
- Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
- Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 1/3/2011-2/1/2011 Active	<u>12.12</u>	<u>66.39</u>	<u>85.66</u>	<u>0.09</u>	<u>0.37</u>	<u>4.43</u>	<u>4.81</u>	<u>0.13</u>	<u>4.07</u>	<u>4.20</u>	<u>13,546.08</u>
- Asphalt 11/18/2010-02/01/2011	5.05	26.71	16.68	0.01	0.04	1.91	1.94	0.01	1.75	1.77	2,881.61
- Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- Paving Off Road Diesel	3.34	21.74	12.62	0.00	0.00	1.70	1.70	0.00	1.57	1.57	1,869.24
- Paving On Road Diesel	0.38	4.84	1.86	0.01	0.02	0.19	0.22	0.01	0.18	0.19	732.55
- Paving Worker Trips	0.07	0.13	2.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.83
- Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
- Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
- Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
- Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 2/2/2011-12/30/2011 Active	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
- Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
- Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
- Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
- Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 1/2/2012-4/13/2012 Active	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
- Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
- Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
- Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
- Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 4/16/2012-10/15/2012	<u>39.54</u>	<u>36.89</u>	<u>66.28</u>	<u>0.08</u>	<u>0.34</u>	<u>2.38</u>	<u>2.72</u>	<u>0.12</u>	<u>2.17</u>	<u>2.29</u>	<u>10,851.75</u>
- Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
- Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
- Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
- Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
- Coating 04/15/2012-10/15/2012	33.00	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
- Architectural Coating	32.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- Coating Worker Trips	0.04	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28

Time Slice 10/16/2012-12/31/2012	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 1/1/2013-4/24/2013 Active	<u>6.00</u>	<u>34.01</u>	<u>61.09</u>	<u>0.08</u>	<u>0.33</u>	<u>2.16</u>	<u>2.49</u>	<u>0.12</u>	<u>1.97</u>	<u>2.09</u>	<u>10,662.83</u>
Building 11/15/2010-04/24/2013	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
Building Off Road Diesel	4.27	25.81	16.03	0.00	0.00	1.76	1.76	0.00	1.62	1.62	3,225.57
Building Vendor Trips	0.56	5.96	5.10	0.01	0.05	0.24	0.30	0.02	0.22	0.24	1,546.94
Building Worker Trips	1.18	2.24	39.96	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,890.32

Phase Assumptions

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 224.3

Maximum Daily Acreage Disturbed: 35

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 10791.88

Off-Road Equipment:

8 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

8 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

8 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/4/2010 - 11/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 6/21/2010 - 9/21/2010 - Access Roads

Acres to be Paved: 4.49

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 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 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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Phase: Paving 11/18/2010 - 2/1/2011 - Default Paving Description

Acres to be Paved: 26

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 11/15/2010 - 4/24/2013 - Default Building Construction Description

Off-Road Equipment:

- 2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
- 2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
- 2 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

Phase: Architectural Coating 4/15/2012 - 10/15/2012 - 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

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

	<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 3/24/2010-6/3/2010 Active	70.75	721.76	328.90	0.44	82.30	31.66	113.97	17.38	29.13	46.51	80,872.37
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	82.30	31.66	113.97	17.38	29.13	46.51	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	80.73	0.00	80.73	16.86	0.00	16.86	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Time Slice 6/4/2010-6/18/2010 Active	72.84	739.51	338.17	0.44	82.31	32.54	114.85	17.38	29.94	47.32	82,711.40
Mass Grading 03/24/2010-	70.75	721.76	328.90	0.44	82.30	31.66	113.97	17.38	29.13	46.51	80,872.37
Mass Grading Dust	0.00	0.00	0.00	0.00	80.73	0.00	80.73	16.86	0.00	16.86	0.00
Mass Grading Off Road Diesel	44.68	385.11	190.94	0.00	0.00	17.87	17.87	0.00	16.44	16.44	34,074.69
Mass Grading On Road Diesel	25.79	336.12	129.05	0.43	1.52	13.76	15.28	0.50	12.66	13.16	45,740.32
Mass Grading Worker Trips	0.28	0.53	8.91	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,057.35
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

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Time Slice 6/21/2010-9/21/2010 Active	5.81	40.81	24.26	0.01	0.02	2.63	2.65	0.01	2.42	2.43	4,043.41
Asphalt 06/21/2010-09/21/2010	3.72	23.06	14.99	0.00	0.02	1.75	1.77	0.01	1.61	1.61	2,204.37
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.41	22.17	12.35	0.00	0.00	1.71	1.71	0.00	1.57	1.57	1,822.53
Paving On Road Diesel	0.06	0.75	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.96
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 9/22/2010-11/12/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/15/2010-11/15/2010	9.73	60.41	82.59	0.08	0.34	3.57	3.91	0.12	3.28	3.40	12,504.76
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Trenching 06/04/2010-11/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/16/2010-11/17/2010	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32
Time Slice 11/18/2010-12/31/2010	12.94	71.11	90.49	0.09	0.37	4.70	5.07	0.13	4.31	4.44	13,547.40
Asphalt 11/18/2010-02/01/2011	5.29	28.45	17.16	0.01	0.04	2.01	2.04	0.01	1.84	1.86	2,881.67
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.55	22.93	12.73	0.00	0.00	1.78	1.78	0.00	1.64	1.64	1,869.24
Paving On Road Diesel	0.41	5.38	2.07	0.01	0.02	0.22	0.24	0.01	0.20	0.21	732.55
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 11/15/2010-04/24/2013	7.64	42.66	73.33	0.08	0.33	2.69	3.03	0.12	2.47	2.58	10,665.72
Building Off Road Diesel	5.36	31.35	17.20	0.00	0.00	2.19	2.19	0.00	2.01	2.01	3,225.57
Building Vendor Trips	0.73	8.38	6.47	0.01	0.05	0.35	0.40	0.02	0.32	0.34	1,546.83
Building Worker Trips	1.56	2.93	49.66	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,893.32

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Time Slice 1/3/2011-2/1/2011 Active	<u>12.12</u>	<u>66.39</u>	<u>85.66</u>	<u>0.09</u>	<u>0.37</u>	<u>4.43</u>	<u>4.81</u>	<u>0.13</u>	<u>4.07</u>	<u>4.20</u>	<u>13,546.08</u>
- Asphalt 11/18/2010-02/01/2011	5.05	26.71	16.68	0.01	0.04	1.91	1.94	0.01	1.75	1.77	2,881.61
Paving Off-Gas	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.34	21.74	12.62	0.00	0.00	1.70	1.70	0.00	1.57	1.57	1,869.24
Paving On Road Diesel	0.38	4.84	1.86	0.01	0.02	0.19	0.22	0.01	0.18	0.19	732.55
Paving Worker Trips	0.07	0.13	2.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.83
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 2/2/2011-12/30/2011 Active	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building 11/15/2010-04/24/2013	7.07	39.68	68.98	0.08	0.33	2.53	2.86	0.12	2.31	2.43	10,664.47
Building Off Road Diesel	4.98	29.45	16.77	0.00	0.00	2.06	2.06	0.00	1.89	1.89	3,225.57
Building Vendor Trips	0.67	7.55	5.99	0.01	0.05	0.31	0.37	0.02	0.29	0.30	1,546.86
Building Worker Trips	1.42	2.68	46.22	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,892.04
Time Slice 1/2/2012-4/13/2012 Active	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 4/16/2012-10/15/2012	<u>39.54</u>	<u>36.89</u>	<u>66.28</u>	<u>0.08</u>	<u>0.34</u>	<u>2.38</u>	<u>2.72</u>	<u>0.12</u>	<u>2.17</u>	<u>2.29</u>	<u>10,851.75</u>
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Coating 04/15/2012-10/15/2012	33.00	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Architectural Coating	32.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.37	0.00	0.01	0.01	0.01	0.00	0.00	0.01	188.28
Time Slice 10/16/2012-12/31/2012	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building 11/15/2010-04/24/2013	6.54	36.81	64.91	0.08	0.33	2.37	2.70	0.12	2.17	2.29	10,663.47
Building Off Road Diesel	4.63	27.62	16.37	0.00	0.00	1.93	1.93	0.00	1.78	1.78	3,225.57
Building Vendor Trips	0.61	6.74	5.54	0.01	0.05	0.28	0.33	0.02	0.25	0.27	1,546.88
Building Worker Trips	1.30	2.46	43.00	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,891.02
Time Slice 1/1/2013-4/24/2013 Active	<u>6.00</u>	<u>34.01</u>	<u>61.09</u>	<u>0.08</u>	<u>0.33</u>	<u>2.16</u>	<u>2.49</u>	<u>0.12</u>	<u>1.97</u>	<u>2.09</u>	<u>10,662.83</u>
Building 11/15/2010-04/24/2013	6.00	34.01	61.09	0.08	0.33	2.16	2.49	0.12	1.97	2.09	10,662.83
Building Off Road Diesel	4.27	25.81	16.03	0.00	0.00	1.76	1.76	0.00	1.62	1.62	3,225.57
Building Vendor Trips	0.56	5.96	5.10	0.01	0.05	0.24	0.30	0.02	0.22	0.24	1,546.94
Building Worker Trips	1.18	2.24	39.96	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,890.32

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass 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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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	0.41	5.36	2.28	0.00	0.01	0.01	6,841.49
Hearth	0.16	2.73	1.16	0.02	0.22	0.22	3,483.53
Landscaping - No Winter Emissions							
Consumer Products	16.88						
Architectural Coatings	1.19						
TOTALS (lbs/day, unmitigated)	18.64	8.09	3.44	0.02	0.23	0.23	10,325.02

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77
TOTALS (lbs/day, unmitigated)	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 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
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	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	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		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)

Operational Changes to Defaults

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Acreage Disturbed Run\Spring Trails_Unmit_30run.urb924

Project Name: Spring Trails - Unmit

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

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>
2010 TOTALS (tons/year unmitigated)	2.69	25.75	12.96	0.02	42.17	1.19	43.36	8.81	1.09	9.91	2,961.67
2010 TOTALS (tons/year mitigated)	2.69	25.75	12.96	0.02	2.60	1.19	3.79	0.55	1.09	1.64	2,961.67
Percent Reduction	0.00	0.00	0.00	0.00	93.84	0.00	91.27	93.76	0.00	83.43	0.00
2011 TOTALS (tons/year unmitigated)	0.97	5.45	9.15	0.01	0.04	0.35	0.39	0.02	0.32	0.34	1,418.08
2011 TOTALS (tons/year mitigated)	0.97	5.45	9.15	0.01	0.04	0.35	0.39	0.02	0.32	0.34	1,418.08
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012 TOTALS (tons/year unmitigated)	3.02	4.81	8.56	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,403.92
2012 TOTALS (tons/year mitigated)	3.02	4.81	8.56	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,403.92
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013 TOTALS (tons/year unmitigated)	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
2013 TOTALS (tons/year mitigated)	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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 (tons/year, unmitigated)	3.86	1.01	3.10	0.00	0.01	0.01	1,254.61

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 (tons/year, unmitigated)	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42

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 (tons/year, unmitigated)	7.63	6.02	45.77	0.05	8.79	1.72	6,388.03

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, 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>
2010	2.69	25.75	12.96	0.02	42.17	1.19	43.36	8.81	1.09	9.91	2,961.67
Mass Grading 03/24/2010-	2.23	22.74	10.36	0.01	42.16	1.00	43.16	8.81	0.92	9.73	2,547.48
Mass Grading Dust	0.00	0.00	0.00	0.00	42.12	0.00	42.12	8.80	0.00	8.80	0.00
Mass Grading Off Road Diesel	1.41	12.13	6.01	0.00	0.00	0.56	0.56	0.00	0.52	0.52	1,073.35
Mass Grading On Road Diesel	0.81	10.59	4.07	0.01	0.05	0.43	0.48	0.02	0.40	0.41	1,440.82
Mass Grading Worker Trips	0.01	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.31
Trenching 06/04/2010-11/15/2010	0.12	1.04	0.54	0.00	0.00	0.05	0.05	0.00	0.05	0.05	107.58
Trenching Off Road Diesel	0.12	1.03	0.48	0.00	0.00	0.05	0.05	0.00	0.05	0.05	100.31
Trenching Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.28
Asphalt 06/21/2010-09/21/2010	0.12	0.77	0.50	0.00	0.00	0.06	0.06	0.00	0.05	0.05	73.85
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.11	0.74	0.41	0.00	0.00	0.06	0.06	0.00	0.05	0.05	61.05
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.42
Paving Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.38
Building 11/15/2010-04/24/2013	0.13	0.75	1.28	0.00	0.01	0.05	0.05	0.00	0.04	0.05	186.65
Building Off Road Diesel	0.09	0.55	0.30	0.00	0.00	0.04	0.04	0.00	0.04	0.04	56.45
Building Vendor Trips	0.01	0.15	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	27.07
Building Worker Trips	0.03	0.05	0.87	0.00	0.00	0.00	0.01	0.00	0.00	0.00	103.13
Asphalt 11/18/2010-02/01/2011	0.08	0.46	0.27	0.00	0.00	0.03	0.03	0.00	0.03	0.03	46.11
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.06	0.37	0.20	0.00	0.00	0.03	0.03	0.00	0.03	0.03	29.91
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.72
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.48
2011	0.97	5.45	9.15	0.01	0.04	0.35	0.39	0.02	0.32	0.34	1,418.08
Asphalt 11/18/2010-02/01/2011	0.06	0.29	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	31.70
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.04	0.24	0.14	0.00	0.00	0.02	0.02	0.00	0.02	0.02	20.56
Paving On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.06
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.08
Building 11/15/2010-04/24/2013	0.92	5.16	8.97	0.01	0.04	0.33	0.37	0.02	0.30	0.32	1,386.38
Building Off Road Diesel	0.65	3.83	2.18	0.00	0.00	0.27	0.27	0.00	0.25	0.25	419.32
Building Vendor Trips	0.09	0.98	0.78	0.00	0.01	0.04	0.05	0.00	0.04	0.04	201.09
Building Worker Trips	0.19	0.35	6.01	0.01	0.04	0.02	0.06	0.01	0.02	0.03	765.97

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2012	3.02	4.81	8.56	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,403.92
Building 11/15/2010-04/24/2013	0.85	4.80	8.47	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,391.58
Building Off Road Diesel	0.60	3.60	2.14	0.00	0.00	0.25	0.25	0.00	0.23	0.23	420.94
Building Vendor Trips	0.08	0.88	0.72	0.00	0.01	0.04	0.04	0.00	0.03	0.04	201.87
Building Worker Trips	0.17	0.32	5.61	0.01	0.04	0.02	0.06	0.01	0.02	0.03	768.78
Coating 04/15/2012-10/15/2012	2.16	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.33
Architectural Coating	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.33
2013	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Building 11/15/2010-04/24/2013	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Building Off Road Diesel	0.17	1.06	0.66	0.00	0.00	0.07	0.07	0.00	0.07	0.07	132.25
Building Vendor Trips	0.02	0.24	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	63.42
Building Worker Trips	0.05	0.09	1.64	0.00	0.01	0.01	0.02	0.00	0.01	0.01	241.50

Phase Assumptions

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 224.3

Maximum Daily Acreage Disturbed: 35

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 10791.88

Off-Road Equipment:

8 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

8 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

8 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/4/2010 - 11/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 6/21/2010 - 9/21/2010 - Access Roads

Acres to be Paved: 4.49

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 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 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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Building 11/15/2010-04/24/2013	0.13	0.75	1.28	0.00	0.01	0.05	0.05	0.00	0.04	0.05	186.65
Building Off Road Diesel	0.09	0.55	0.30	0.00	0.00	0.04	0.04	0.00	0.04	0.04	56.45
Building Vendor Trips	0.01	0.15	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	27.07
Building Worker Trips	0.03	0.05	0.87	0.00	0.00	0.00	0.01	0.00	0.00	0.00	103.13
Asphalt 11/18/2010-02/01/2011	0.08	0.46	0.27	0.00	0.00	0.03	0.03	0.00	0.03	0.03	46.11
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.06	0.37	0.20	0.00	0.00	0.03	0.03	0.00	0.03	0.03	29.91
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.72
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.48
2011	0.97	5.45	9.15	0.01	0.04	0.35	0.39	0.02	0.32	0.34	1,418.08
Asphalt 11/18/2010-02/01/2011	0.06	0.29	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	31.70
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.04	0.24	0.14	0.00	0.00	0.02	0.02	0.00	0.02	0.02	20.56
Paving On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.06
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.08
Building 11/15/2010-04/24/2013	0.92	5.16	8.97	0.01	0.04	0.33	0.37	0.02	0.30	0.32	1,386.38
Building Off Road Diesel	0.65	3.83	2.18	0.00	0.00	0.27	0.27	0.00	0.25	0.25	419.32
Building Vendor Trips	0.09	0.98	0.78	0.00	0.01	0.04	0.05	0.00	0.04	0.04	201.09
Building Worker Trips	0.19	0.35	6.01	0.01	0.04	0.02	0.06	0.01	0.02	0.03	765.97
2012	3.02	4.81	8.56	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,403.92
Building 11/15/2010-04/24/2013	0.85	4.80	8.47	0.01	0.04	0.31	0.35	0.02	0.28	0.30	1,391.58
Building Off Road Diesel	0.60	3.60	2.14	0.00	0.00	0.25	0.25	0.00	0.23	0.23	420.94
Building Vendor Trips	0.08	0.88	0.72	0.00	0.01	0.04	0.04	0.00	0.03	0.04	201.87
Building Worker Trips	0.17	0.32	5.61	0.01	0.04	0.02	0.06	0.01	0.02	0.03	768.78
Coating 04/15/2012-10/15/2012	2.16	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.33
Architectural Coating	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.33
2013	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Building 11/15/2010-04/24/2013	0.25	1.39	2.50	0.00	0.01	0.09	0.10	0.00	0.08	0.09	437.18
Building Off Road Diesel	0.17	1.06	0.66	0.00	0.00	0.07	0.07	0.00	0.07	0.07	132.25
Building Vendor Trips	0.02	0.24	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	63.42
Building Worker Trips	0.05	0.09	1.64	0.00	0.01	0.01	0.02	0.00	0.01	0.01	241.50

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass 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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.08	0.98	0.42	0.00	0.00	0.00	1,248.57
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	1.74
Landscape	0.48	0.03	2.68	0.00	0.01	0.01	4.30
Consumer Products	3.08						
Architectural Coatings	0.22						
TOTALS (tons/year, unmitigated)	3.86	1.01	3.10	0.00	0.01	0.01	1,254.61

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42
TOTALS (tons/year, unmitigated)	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

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
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	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	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		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)

Operational Changes to Defaults

Urbemis 2007 Version 9.2.4
 Combined Summer Emissions Reports (Pounds/Day)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Spring Trails_Unmit.urb924
 Project Name: Spring Trails - Unmit
 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

Summary Report:

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)	21.13	5.53	16.97	0.00	0.05	0.05	6,865.07

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)	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58

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)	41.28	31.26	254.29	0.30	48.18	9.43	35,901.65

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.41	5.36	2.28	0.00	0.01	0.01	6,841.49
Hearth - No Summer Emissions							
Landscape	2.65	0.17	14.69	0.00	0.04	0.04	23.58
Consumer Products	16.88						
Architectural Coatings	1.19						
TOTALS (lbs/day, unmitigated)	21.13	5.53	16.97	0.00	0.05	0.05	6,865.07

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%
 Percentage of residences with wood fireplaces changed from 5% to 0%
 Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58
TOTALS (lbs/day, unmitigated)	20.15	25.73	237.32	0.30	48.13	9.38	29,036.58

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 80 Season: Summer

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
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	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	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commute	Commercial	
	Home-Work	Home-Shop	Home-Other		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)

Combined Winter Emissions Reports (Pounds/Day)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Spring Trails_Unmit.urb924

Project Name: Spring Trails - Unmit

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

Summary Report:

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)	18.64	8.09	3.44	0.02	0.23	0.23	10,325.02

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)	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77

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)	40.29	39.02	230.27	0.27	48.36	9.61	36,636.79

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.41	5.36	2.28	0.00	0.01	0.01	6,841.49
Hearth	0.16	2.73	1.16	0.02	0.22	0.22	3,483.53
Landscaping - No Winter Emissions							
Consumer Products	16.88						
Architectural Coatings	1.19						
TOTALS (lbs/day, unmitigated)	18.64	8.09	3.44	0.02	0.23	0.23	10,325.02

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77
TOTALS (lbs/day, unmitigated)	21.65	30.93	226.83	0.25	48.13	9.38	26,311.77

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 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
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	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	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commute	Commercial	
	Home-Work	Home-Shop	Home-Other		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)

Urbemis 2007 Version 9.2.4
 Combined Annual Emissions Reports (Tons/Year)

File Name: Q:\MEL-01.0E\New Technical Studies\AQ\Urbemis\Spring Trails_Unmit.urb924
 Project Name: Spring Trails - Unmit
 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

Summary Report:

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 (tons/year, unmitigated)	3.86	1.01	3.10	0.00	0.01	0.01	1,254.61

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 (tons/year, unmitigated)	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42

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 (tons/year, unmitigated)	7.63	6.02	45.77	0.05	8.79	1.72	6,388.03

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.08	0.98	0.42	0.00	0.00	0.00	1,248.57
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	1.74
Landscape	0.48	0.03	2.68	0.00	0.01	0.01	4.30
Consumer Products	3.08						
Architectural Coatings	0.22						
TOTALS (tons/year, unmitigated)	3.86	1.01	3.10	0.00	0.01	0.01	1,254.61

Area Source Changes to Defaults

- Percentage of residences with wood stoves changed from 10% to 0%
- Percentage of residences with wood fireplaces changed from 5% to 0%
- Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42
TOTALS (tons/year, unmitigated)	3.77	5.01	42.67	0.05	8.78	1.71	5,133.42

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

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
Single family housing	350.60	9.57	dwelling units	329.00	3,148.53	27,848.75
					3,148.53	27,848.75

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	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	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		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)

Construction Localized Significance Thresholds - Spring Trails

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
34	5.00	25	82

Source Receptor Central San Bernardino Valley

Distance (meters)

NOx	270
CO	1720
PM10	14
PM2.5	8

	Acres	25	50	100	200	500
NOx	5	270	302	378	486	778
	5	270	302	378	486	778
		270	302	378	486	778
CO	5	1720	2361	4080	8405	27680
	5	1720	2361	4080	8405	27680
		1720	2361	4080	8405	27680
PM10	5	14	44	65	106	229
	5	14	44	65	106	229
		14	44	65	106	229
PM2.5	5	8	10	17	35	120
	5	8	10	17	35	120
		8	10	17	35	120

Central San Bernardino Valley

5.00 Acres

	25	50	100	200	500
NOx	270	302	378	486	778
CO	1720	2361	4080	8405	27680
PM10	14	44	65	106	229
PM2.5	8	10	17	35	120

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
34	5	34	5
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 1/23/2009 - Table C-1. 2005 – 2007

Operation Localized Significance Thresholds - Spring Trails

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
34	5.00	25	82

Source Receptor Distance (meters)	Central San Bernardino Valley
25	
NOx	270
CO	1720
PM10	4
PM2.5	2

	NOx	CO	PM10	PM2.5
Stationary Sources	8.09	16.97	0.23	0.23
Mobile sources	2.86	21.91	4.44	0.87

	Acres	25	50	100	200	500
NOx	5	270	302	378	486	778
	5	270	302	378	486	778
	5	270	302	378	486	778
CO	5	1720	2361	4080	8405	27680
	5	1720	2361	4080	8405	27680
	5	1720	2361	4080	8405	27680
PM10	5	4	11	16	26	55
	5	4	11	16	26	55
	5	4	11	16	26	55
PM2.5	5	2	3	5	9	29
	5	2	3	5	9	29
	5	2	3	5	9	29

	NOx	CO	PM10	PM2.5
Operation	10.95	38.88	4.67	1.10
LST Thresholds	270	1720	4	2
Amount Exceeding Thresholds	-259.0	-1681.0	0.7	-0.9
Total VMT	26,156	Total Feet	138,102,730	
Total Trips	2,957	Feet per trip travel onsite		4,311
Total Feet Traveled onsite	12,748,187	Percent of MMT		0.09
Mobile-Source Emissions (highest)	30.93	237.32	48.13	9.38
% Mobile Source Emissions onsite	2.855	21.907	4.443	0.866

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
34	5	34	5
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 1/23/2009 - Table C-1. 2005 – 2007

Spring Trails - Mitigated On-Site Construction Pollutant Emissions

	nox	co	pm10	pm2.5
mass grading	582.89	328.9	194.7	63.37
on-road	336.12	129.05	15.28	13.16
worker	0.53	8.91	0.08	0.04
<i>total</i>	246.24	190.94	179.34	50.17
trenching	17.43	9.26	0.89	0.81
on-road	0	0	0	0
worker	0.06	1.05	0.01	0
<i>total</i>	17.37	8.21	0.88	0.81
asphalt (roads)	16.24	14.99	1.77	1.61
on-road	0.75	0.29	0.03	0.03
worker	0.14	2.36	0.02	0.01
<i>total</i>	15.35	12.34	1.72	1.57
asphalt	21.61	17.16	2.04	1.86
on-road	5.38	2.07	0.24	0.21
worker	0.14	2.36	0.02	0.01
<i>total</i>	16.09	12.73	1.78	1.64
building	39.54	73.33	3.03	2.58
vendor	8.38	6.47	0.4	0.34
worker	2.93	49.66	0.44	0.24
<i>total</i>	28.23	17.2	2.19	2
coating	0.08	1.37	0.01	0.01
on-road	0	0	0	0
worker	0.08	1.37	0.01	0.01
<i>total</i>	0	0	0	0

Max Daily Emissions

nox	co	pm10	pm2.5
263.61	199.15	180.22	50.98

Spring Trails - Unmitigated On-Site Construction Pollutant Emissions

	nox	co	pm10	pm2.5
mass grading	721.76	328.9	454.7	117.66
on-road	336.12	129.05	15.28	13.16
worker	0.53	8.91	0.08	0.04
<i>total</i>	385.11	190.94	439.34	104.46
trenching	17.75	9.26	0.89	0.81
on-road	0	0	0	0
worker	0.06	1.05	0.01	0
<i>total</i>	17.69	8.21	0.88	0.81
asphalt (roads)	23.06	14.99	1.77	1.61
on-road	0.75	0.29	0.03	0.03
worker	0.14	2.36	0.02	0.01
<i>total</i>	22.17	12.34	1.72	1.57
asphalt	28.45	17.16	2.04	1.86
on-road	5.38	2.07	0.24	0.21
worker	0.14	2.36	0.02	0.01
<i>total</i>	22.93	12.73	1.78	1.64
building	42.66	73.33	3.03	2.58
vendor	8.38	6.47	0.4	0.34
worker	2.93	49.66	0.44	0.24
<i>total</i>	31.35	17.2	2.19	2
coating	0.08	1.37	0.01	0.01
on-road	0	0	0	0
worker	0.08	1.37	0.01	0.01
<i>total</i>	0	0	0	0

Max Daily Emissions

nox	co	pm10	pm2.5
402.8	199.15	440.22	105.27

Spring Trails
 Caline Results
 Ambient CO

For Source Receptor Area 34

AQMD Projected CO Concentrations

	Year	One Hour	Year	Eight Hour
Ambient	2013	3.6	2013	2.9

1 hr/8hr deterioration 70%

SCAQMD CEQA website: <http://www.aqmd.gov/ceqa/handbook/CO/CO.html>

		One-Hour CO Concentrations		Eight-Hour CO Concentrations		
Intersections	Intersection 13		Intersection 13			
Receptor		Project	Project	1 hour	8 Hour	
NE		3.3	2.3	NO	NO	
SE		3.5	2.5	NO	NO	
SW		3.4	2.4	NO	NO	
NW		3.4	2.4	NO	NO	

		One-Hour CO Concentrations		Eight-Hour CO Concentrations		
Intersections	Intersection 14		Intersection 14			
Receptor		Project	Project	1 hour	8 Hour	
NE		3.4	2.4	NO	NO	
SE		3.6	2.5	NO	NO	
SW		3.4	2.4	NO	NO	
NW		3.5	2.5	NO	NO	

intersection_13.txt

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
 JUNE 1989 VERSION
 PAGE 2

JOB: Intersection 13
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* * BRG * (DEG) *	* * PRED * CONC * (PPM) *	CONC/LINK (PPM)									
			A	B	C	D	E	F	G	H		
1. NE	* 186.	* 3.3 *	.0	.2	.0	.0	.0	.0	.0	.0	.0	
2. SE	* 354.	* 3.5 *	.0	.0	.3	.0	.0	.0	.0	.0	.0	
3. SW	* 6.	* 3.4 *	.0	.0	.0	.0	.0	.3	.0	.0	.0	
4. NW	* 96.	* 3.4 *	.0	.0	.0	.0	.0	.1	.0	.0	.0	

RECEPTOR	CONC/LINK (PPM)						
	I	J	K	L	M	N	
1. NE	* .0	* .1	* .0	* .0	* .0	* .0	
2. SE	* .0	* .0	* .0	* .0	* .0	* .0	
3. SW	* .0	* .0	* .0	* .0	* .0	* .0	
4. NW	* .0	* .3	* .0	* .0	* .0	* .0	

☐

intersection_14.txt
 JOB: Intersection 14
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M)		
		X	Y	Z
1. NE	*	8	8	1.8
2. SE	*	8	-8	1.8
3. SW	*	-12	-8	1.8
4. NW	*	-12	8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	*	BRG (DEG)	* PRED * CONC * (PPM)	*	CONC/LINK (PPM)							
					A	B	C	D	E	F	G	H
1. NE	*	95.	* 3.4 *	*	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	*	355.	* 3.6 *	*	.0	.0	.2	.0	.0	.0	.0	.0
3. SW	*	85.	* 3.4 *	*	.0	.0	.0	.0	.0	.0	.0	.0
4. NW	*	94.	* 3.5 *	*	.0	.0	.0	.0	.0	.0	.0	.0

RECEPTOR	*	CONC/LINK (PPM)											
		I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	*	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
3. SW	*	.0	.1	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
4. NW	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

☐

Table 2**Projected Future Year 1-hour CO Concentrations (ppm)**

Monitoring Site Location		Y E A R				
		1999	2000	2010	2015	2020
1	Central LA	7	6.7	5.1	5.1	5.1
2	West LA	6	5.8	4.4	4.4	4.4
3	Hawthorne	10	9.6	7.3	7.3	7.3
4	Long Beach	7	6.7	5.1	5.1	5.1
6	Reseda	9	8.6	6.5	6.6	6.6
7	Burbank	9	8.6	6.5	6.6	6.6
8	Pasadena	9	8.6	6.5	6.6	6.6
9	Azusa	5	4.8	3.6	3.6	3.6
10	Pomona	10	9.6	7.3	7.3	7.3
11	Pico Rivera	7	6.7	5.1	5.1	5.1
12	Lynwood	19	18.2	13.8	13.8	13.9
12	Compton	19	18.2	13.8	13.8	13.9
13	Santa Clarita	7	6.7	5.1	5.1	5.1
16	La Habra	11	10.5	8.0	8.0	8.0
17	Anaheim*	8	7.7	5.8	5.8	5.8
18	Costa Mesa	8	7.7	5.8	5.8	5.8
19	El Toro	4	3.8	2.9	2.9	2.9
23	Rubidoux	7	6.7	5.1	5.1	5.1
23	Banning AP**	7	6.7	5.1	5.1	5.1
30	Palm Springs	3	2.9	2.2	2.2	2.2
34	San Bernardino	5	4.8	3.6	3.6	3.6

*Anaheim data recovery rate: 33.7%

**Banning AP data recovery rate: 82.2%

Table 3**Projected Future Year 8-hour CO Concentrations (ppm)**

Monitoring Site Location		Y E A R				
		1999	2000	2010	2015	2020
1	Central LA	6.3	6.0	4.6	4.6	4.6
2	West LA	3.8	3.6	2.8	2.8	2.8
3	Hawthorne	8.4	8.1	6.1	6.1	6.1
4	Long Beach	5.4	5.2	3.9	3.9	3.9
6	Reseda	7.6	7.3	5.5	5.5	5.5
7	Burbank	9	8.6	6.5	6.6	6.6
8	Pasadena	6.6	6.3	4.8	4.8	4.8
9	Azusa	3.9	3.7	2.8	2.8	2.8
10	Pomona	6.7	6.4	4.9	4.9	4.9
11	Pico Rivera	5.6	5.4	4.1	4.1	4.1
12	Lynwood	11	10.5	8.0	8.0	8.0
12	Compton	11.7	11.2	8.5	8.5	8.5
13	Santa Clarita	3.6	3.5	2.6	2.6	2.6
16	La Habra	5.3	5.1	3.9	3.9	3.9
17	Anaheim*	5.3	5.1	3.9	3.9	3.9
18	Costa Mesa	6.4	6.1	4.7	4.7	4.7
19	El Toro	2.5	2.4	1.8	1.8	1.8
23	Rubidoux	4.4	4.2	3.2	3.2	3.2
23	Banning AP**	4.1	3.9	3.0	3.0	3.0
30	Palm Springs	1.8	1.7	1.3	1.3	1.3
34	San Bernardino	4	3.8	2.9	2.9	2.9

*Anaheim data recovery rate: 33.7%

**Banning AP data recovery rate: 82.2%

Greenhouse Gas Emissions Summary

Construction				
Year		CO_{2e} Emissions Tons/Year¹	CO_{2e} Emissions MTons/Year¹	
	2010	120	109	
	2011	273	247	
	2012	0	0	
	2013	0	0	
	Total	393	356	

Operations				
Source		CO_{2e} Emissions Tons/Year¹	CO_{2e} Emissions MTons/Year¹	Percent of Total
Transportation Sector ¹		5,154	4,676	49%
Electricity Sector				
Purchased Energy ²		3,177	2,882	30%
Water Demand and Treatment ³		586	532	6%
Total Energy Emissions		3,763	3,414	36%
Recycling and Waste ⁴		185	168	2%
Commercial and Residential Sector				
Area Sources ¹		1,260	1,143	12%
Refrigerant Leakage ⁵		175	159	2%
Total Commercial and Residential Sector		1,435	1,302	14%
Total all Sectors		10,537	9,559	100%
In Million Metric Tons (MMTons CO_{2e})		0.0	0.0	
Compare to 2020 Goal (427 MMTons)		0.0%	0.0%	
Compare to BAU 2020 (596 MMTons)		0.0%	0.0%	
Per Capita CO_{2e}		10	9	
Residents		1035		
Employees		0		
Total		1035		

Sources:

¹ URBEMIS2007, Version 9.2.4. Assumes CO₂ represents 99.6 percent of total CO_{2e} emissions from motorgasoline and 99.7 percent of total from diesel CO_{2e} while CH₄, N₂O, and Fluorinated Gases comprise the remaining percent based on Bay Area Air Quality Management District's *Source Inventory of Bay Area Greenhouse Gas Emissions*.

² CO_{2e} emissions calculated using energy usage factors and emission rates from the United States Department of Energy, EIA, *2003 Commercial Building Energy Consumption*, December 2006, Table C14; EIA, *Residential Energy Consumption Survey*, Table CE1-6.2u, December 2006; and EIA, *Updated State-and Regional-Level Greenhouse Gas Emission Factors for Electricity*, May 2002.

³ CO_{2e} emissions from the energy intensity of water are based on the CEC's California's Water Energy Relationship (2005) of 12,700 Kwh/MG for Southern California.

⁴ CO_{2e} emissions from waste generation are based on the Waste Reduction Model (WARM) created by the USEPA and the waste stream jurisdictional profile for the City of Ontario

⁵ CO_{2e} emissions from refrigerant/AC equipment use are based on the methodology from the United States Environmental Protection Agency, USEPA, *Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment*, May 2008. <http://www.epa.gov/stateply/documents/resources/mfgrfg.pdf>

Note CARB CO_{2e} based on fuel consumption and not EMFAC

1 short ton (Ton) equals 0.9071847

BAAQMD. Source Inventory of Bay Area Greenhouse Gas Emissions

DISTILLATE FUEL (FUEL OIL, DIESEL)				
	CO ₂	CH ₄	N ₂ O	
	22.384	0.000534	0.0001928	
	1	21	310	CO _{2e} (GWP)
	22.384	0.011214	0.059768	22.454982
	99.7%	0.0%	0.3%	
MOTOR GASOLINE				
	CO ₂	CH ₄	N ₂ O	
	19.564	0.00055	0.0002	
	1	21	310	CO _{2e}
	19.564	0.01155	0.062	19.63755
	99.6%	0.1%	0.3%	

GREENHOUSE GAS BEST MANAGEMENT PRACTICES

15% Above Title 24 (2005) - 2008 Title 24 and Other Green Building Measures			
With 2005 Title 24- Area Sources ⁵	1,260	1,143	
With 2005 Title 24- Energy ⁵	3,177	2,882	
15% above 2008 Title 24- Area Sources ⁵	884	802	
15% above 2008 Title 24- Energy ⁵	2,701	2,450	
Reduction	853	774	8.1%
Renewable Energy Portfolio Standard (20 - 12 = 8% Increase in Renewables) (Scoping Plan)			
Energy	2,701	2,450	
8% increase in Renewable Energy Production	2,485	2,254	
Reduction	216	196	2.1%
			Percent Reduction from BAU
Total Electricity and Residential/Commercial Sector Reductions	1,069	970	21.3%
LCFS - 1.75% Decrease in carbon content of fuel (A-Low Carbon Fuel Standard)			
Transportation	5,154	4,676	
Transportation -1.75% decrease in carbon content	5,064	4,594	
Reduction	90	82	0.9%
Pavley 1 and 2 Fuel Efficiency Standards - 25.4% Reduction in Passenger Vehicle CO2 Emissions. (CARB Technical Assessment 2008)			
Transportation	5,154	4,676	
Transportation w/25.4% increase in Fuel Efficiency	3,846		
		3,489	
Reduction	1,308	1,187	12.4%
			Percent Reduction from BAU
Total Transportation Sector Reductions	1,398	1,269	27.1%

GREENHOUSE GAS BEST MANAGEMENT PRACTICES Summary

	Tons of CO2e	MTons of CO2e
TOTAL GHG BMP REDUCTIONS (Scoping Plan only):	2,467	2,344
TOTAL GHG BMP REDUCTIONS: (with Smart Growth)	2,467	2,238
Percent Reduction from BAU - Scoping Plan	23.4%	24.5%
Percent Reduction from BAU - Scoping Plan	23.4%	23.4%
GHG Inventory with Scoping Plan & MM	8,070	7,321

¹ Based on an increase in 15 percent energy efficiency from the 2005 to 2008 Building and Energy Efficiency Standards (Title 24, California Building Code).

² Based on an increase in renewable energy production of 8 percent. Existing renewable energy production is currently 12 percent of the statewide energy supply and the California Renewables Portfolio Standard of 20 percent by year 2010.

⁵ Based on a 20 percent decrease in per-capita water use in accordance with the statewide Draft 20X2020 Water Conservation Plan.

⁴ Assumes 5.3 percent decrease (2013) and based on the Rationalized Compliance Path of the A-Low Carbon Fuel Standard for California Technical Report.

³ Based on a 25.4 percent increase in fuel efficiency in passenger vehicles from 2009 to 2013 in the CARB 2008 Technical Advisory. Pavley 2 would require an average fleet fuel economy of new cars of 43 mpg

⁶ Based on a 30 percent decrease in VMT from smart growth land use practices (e.g., mixing commercial, office, and residential) (Ewing, et. al. 2008).

Greenhouse Gas Emissions Summary

Construction			
Year	CO _{2e} Emissions Tons/Year ¹	CO _{2e} Emissions Mtons/Year ¹	
2010	120	109	
2011	273	247	
2012	0	0	
2013	0	0	
Total	393	356	

Operations				
Source	CO _{2e} Emissions Tons/Year ¹	CO _{2e} Emissions Mtons/Year ¹	Percent of Total	
Transportation Sector ¹	5,154	4,676	49%	
Electricity Sector				
Purchased Energy ²	3,177	2,882	30%	
Water Demand and Treatment ³	586	532	6%	
Total Energy Emissions	3,763	3,414	36%	
Recycling and Waste ⁴	185	168	2%	
Commercial and Residential Sector				
Area Sources ¹	1,260	1,143	12%	
Refrigerant Leakage ⁵	175	159	2%	
Total Commercial and Residential Sector	1,435	1,302	14%	
Total all Sectors	10,537	9,559	100%	
In Million Metric Tons (MMTons CO_{2e})	0.0	0.0		
Compare to 2020 Goal (427 MMTons)	0.0%	0.0%		
Compare to BAU 2020 (596 MMTons)	0.0%	0.0%		
Per Capita CO_{2e}	10	9		
Residents	1035			
Employees	0			
Total	1035			

Sources:

¹ URBEMIS2007, Version 9.2.4. Assumes CO₂ represents 99.6 percent of total CO_{2e} emissions from motor gasoline and 99.7 percent of total from diesel CO_{2e} while CH₄, N₂O, and Fluorinated Gases comprise the remaining percent based on Bay Area Air Quality Management District's *Source Inventory of Bay Area Greenhouse Gas Emissions*.

² CO_{2e} emissions calculated using energy usage factors and emission rates from the United States Department of Energy, EIA, *2003 Commercial Building Energy Consumption*, December 2006, Table C14; EIA, *Residential Energy Consumption Survey*, Table CE1-6.2u, December 2006; and EIA, *Updated State-and Regional-Level Greenhouse Gas Emission Factors for Electricity*, May 2002.

³ CO_{2e} emissions from the energy intensity of water are based on the CEC's California's Water Energy Relationship (2005) of 12,700 Kwh/MG for Southern California.

⁴ CO_{2e} emissions from waste generation are based on the Waste Reduction Model (WARM) created by the USEPA and the waste stream jurisdictional profile for the City of Ontario

⁵ CO_{2e} emissions from refrigerant/AC equipment use are based on the methodology from the United States Environmental Protection Agency, USEPA, *Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment*, May 2008. <http://www.epa.gov/stateply/documents/resources/mfgrfg.pdf>

Note CARB CO_{2e} based on fuel consumption and not EMFAC

1 short ton (Ton) equals 0.9071847

BAAQMD. Source Inventory of Bay Area Greenhouse Gas Emissions

DISTILLATE FUEL (FUEL OIL, DIESEL)				
	CO ₂	CH ₄	N ₂ O	CO _{2e} (GWP)
	22.384	0.000534	0.0001928	
	1	21	310	
	22.384	0.011214	0.059768	22.454982
	99.7%	0.0%	0.3%	
MOTOR GASOLINE				
	CO ₂	CH ₄	N ₂ O	
	19.564	0.00055	0.0002	
	1	21	310	CO _{2e}
	19.564	0.01155	0.062	19.63755
	99.6%	0.1%	0.3%	

GREENHOUSE GAS BEST MANAGEMENT PRACTICES

15% Above Title 24 (2005) - 2008 Title 24 and Other Green Building Measures

With 2005 Title 24- Area Sources ⁵	1,260	1,143	
With 2005 Title 24- Energy ⁵	3,177	2,882	
15% above 2008 Title 24- Area Sources ⁵	884	802	
15% above 2008 Title 24- Energy ⁵	2,701	2,450	
Reduction	853	774	8.1%

Renewable Energy Portfolio Standard (33 - 12 = 21% Increase in Renewables) (Scoping Plan)

Energy	2,701	2,450	
21% increase in Renewable Energy Production	2,133	1,935	
Reduction	567	514	5.4%

20% (20X2020) Per-Capita Water Use Reduction (Landscaping, Water Conservation, and Efficiency)

Water Use	586	532	
Landscaping w/ 20X2020 Reductions	469	426	
Reduction	117	106	1.1%

Percent Reduction from BAU

Total Electricity and Residential/Commercial

Sector Reductions **1,420** **1,288** **28.3%**

LCFS - 10% Decrease in carbon content of fuel (A-Low Carbon Fuel Standard)

Transportation	5,154	4,676	
Transportation -10% decrease in carbon content	4,639	4,208	
Reduction	515	468	4.9%

Pavley 1 and 2 Fuel Efficiency Standards - 42.8% Reduction in Passenger Vehicle CO2 Emissions. (CARB Technical Assessment 2008)

Transportation	5,154	4,676	
Transportation w/42.8% increase in Fuel Efficiency	2,948	2,674	
Reduction	2,206	2,001	20.9%

Percent Reduction from BAU

Total Transportation Sector Reductions **2,721** **2,469** **52.8%**

GREENHOUSE GAS BEST MANAGEMENT PRACTICES Summary

	Tons of CO2e	MTons of CO2e
TOTAL GHG BMP REDUCTIONS (Scoping Plan only):	4,258	3,863
TOTAL GHG BMP REDUCTIONS: (with Smart Growth)	4,141	3,757
Percent Reduction from BAU - Scoping Plan	40.4%	40.4%
Percent Reduction from BAU - Scoping Plan	39.3%	39.3%
GHG Inventory with Scoping Plan & MM	6,396	5,803

¹ Based on an increase in 15 percent energy efficiency from the 2005 to 2008 Building and Energy Efficiency Standards (Title 24, California Building Code).

² Based on an increase in renewable energy production of 21 percent. Existing renewable energy production is currently 12 percent of the statewide energy supply and the CARB Scoping Plan goal is 33 percent.

⁵ Based on a 20 percent decrease in per-capita water use in accordance with the statewide Draft 20X2020 Water Conservation Plan.

⁴ Based on a 10 percent decrease in the carbon content of fuel in the CARB Scoping Plan.

³ Based on a 42.8 percent increase in fuel efficiency in passenger vehicles from 2008 to 2020 in the CARB 2008 Technical Advisory. Pavley 2 would require a average fleet fuel economy of new cars of 43

⁶ Based on a 30 percent decrease in VMT from smart growth land use practices (e.g., mixing commercial, office, and residential) (Ewing, et. al. 2008).

Greenhouse Gas Emissions Summary

Business As Usual GHG Emissions Inventory

Source	Year 2013		Year 2020	
	CO _{2e} Emissions Tons/Year ¹	CO _{2e} Emissions MTons/Year ¹	CO _{2e} Emissions Tons/Year ¹	CO _{2e} Emissions MTons/Year ¹
Transportation Sector ¹	4,676	4,676	4,676	48.9%
Purchased Energy ²	2,882	2,882	2,882	30.2%
Water Demand and Treatment	532	532	532	
Recycling and Waste	168	168	168	
Refrigerant Leakage	159	159	159	
Area Sources ¹	1,143	1,143	1,143	12.0%
Total all Sectors	9,559	9,559	9,559	91%

Sources:

¹ URBEMIS2007, Version 9.2.4. Assumes CO₂ represents 99.6 percent of total CO_{2e} emissions from gasoline while CH₄, N₂O, and Fluorinated Gases comprise the remaining percent based on Bay Area Air Quality Management District's *Source Inventory of Bay Area Greenhouse Gas Emissions*.

² CO_{2e} emissions calculated using energy usage factors and emission rates from the United States Department of Energy, Residential Energy Consumption Survey, Table US1. Total Energy Consumption, Expenditures, and Intensities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

Note CARB CO_{2e} based on fuel consumption and not EMFAC

1 short ton (Ton) equals 0.9071847

GREENHOUSE GAS BEST MANAGEMENT PRACTICES

	Year 2013		Year 2020	
	Reductions CO _{2e} Emissions		Reductions CO _{2e} Emissions	
	MTons/Year ¹		MTons/Year ¹	
15% above 2008 Title 24- Area Sources ¹	341	341	341	
15% above 2008 Title 24- Energy ¹	432	432	432	
Renewable Energy Portfolio Standard	196	196	514	
20% (20X2020) Per-Capita Water Use Reduction	0	0	0	
Transportation -10% decrease in carbon content of fuel	82	82	468	
Transportation - 23.5% increase in Fuel Efficiency Year 2012	1,187	1,187	n/a	
Transportation - 42.8% increase in Fuel Efficiency Year 2020	n/a	n/a	2,001	
Total Reductions from BAU - Year 2012	2,238	2,238	n/a	
Total Reductions from BAU - Year 2020	n/a	n/a	3,757	

¹ Based on an increase in 15 percent energy efficiency from the 2005 to 2008 Building and Energy Efficiency Standards (Title 24, California Building Code).

² Based on a 10 percent decrease in the carbon content of fuel in the CARB Scoping Plan.

³ Based on a 23.5 percent increase in fuel efficiency in passenger vehicles from 2008 to 2012 in the CARB 2008 Technical Advisory. Pavley 2 would require an average fleet fuel economy of new cars of 32.8 mpg by 2012 compared to an existing average of 25 mpg.

³ Based on a 42.8 percent increase in fuel efficiency in passenger vehicles from 2008 to 2020 in the CARB 2008 Technical Advisory. Pavley 2 would require an average fleet fuel economy of new cars of 43.9 mpg by 2020 compared to an existing average of 25 mpg.

GHG Emissions Inventory with Scoping Plan Reductions

Source	Year 2013		Year 2020	
	CO _{2e} Emissions MTons/Year ¹	Percent of Total	CO _{2e} Emissions MTons/Year ¹	Percent of Total
Transportation Sector ¹	3,407	47%	2,207	38%
Purchased Energy ²	2,254	31%	1,935	33%
Water Demand and Treatment	532	7%	532	9%
Recycling and Waste	168	2%	168	3%
Total Area Sources	960	13%	960	17%
Total all Sectors	7,321	113%	5,803	117%
		Percent Decrease from BAU in year 2012	23%	
		Percent Decrease from BAU in year 2020	39%	

Sources:

¹ URBEMIS2007, Version 9.2.4. Assumes CO₂ represents 99.6 percent of total CO_{2e} emissions from gasoline while CH₄, N₂O, and Fluorinated Gases comprise the remaining percent based on Bay Area Air Quality Management District's *Source Inventory of Bay Area Greenhouse Gas Emissions*.

² CO_{2e} emissions calculated using energy usage factors and emission rates from the United States Department of Energy, Residential Energy Consumption Survey, Table US1. Total Energy Consumption, Expenditures, and Intensities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

Note CARB CO_{2e} based on fuel consumption and not EMFAC

1 short ton (Ton) equals 0.9071847

Energy Use and Greenhouse Gases Emission from Energy Use

Residential				
Land Use	Area (ft ²)	Energy Consumption (BTU/1000ft ² /Year)	Energy Consumption KWH/Year	lbs of CO ₂ e/Year
Single-Family	822,500	41.7	10,049,387	6,354,353
Total Residential	822,500	41.7	10,049,387	6,354,353
			Tons/year	3,177
			lbs/day	17,409

Total				
	Annual Electricity Use			CO ₂ e
	KWH/Year	10,049,387		6,354,353
	GWH/Year	10,049		2,882
			Tons/Year	3,177
			lbs/day	17,409

Sources

Note: New structures would be constructed to meet newer California Building Code energy efficiency requirements

¹ Commercial energy use based on Table C20 and C14 (where climate specific information was not available) US Energy Information Administration www.eia.doe.gov/emeu/cbeecs/

¹ Residential energy use based on US Energy Information Administration www.eia.doe.gov Table US1. Total Energy Consumption, Expenditures, and Intensities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

California Energy Emission Factors

0.631 lbs of CO ₂ /kwh	Southern California Edison*
0.0000067 lbs of CH ₄ /kwh	For California
0.00000378 lbs of N ₂ O/kwh	For California

US EUA <http://www.eia.doe.gov/oiaf/1605/ee-factors.html>

GHG Potential - Conversion to CO ₂ e	CH ₄	N ₂ O
	21	310
	lbs of CO₂e/kwh	0.632

* As reported to California Climate Action Registry (CCAR)

Conversion Factors

0.0005	lbs in a ton
0.9071847	Metric Tons
0.000293	BTU (British Thermal Units) in a kwh
471,000,000	tons of CO ₂ e in 1990 and Goal for 2020:

Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO₂e (427 million metric tons of CO₂e) of in state emissions adopted in December 2007.

Assumptions

Assumes single-family homes average 5,000 square feet in size due to the estate nature of the residential development.

Note: New structures would be constructed to meet newer California Building Code energy efficiency requirements

Refrigerant Leakage

Emissions from Operation

Description	Charge Capacity (kg)	Leak Rate (% of capacity/ year)	Emissions (kg/ unit/ year)	Emissions (Mtons/ unit/ year)	Units	GWP	Emissions (Mtons/ Year)
Residential and Commercial AC (including Heat Pumps)							
Single-Family	2.8	10%	0.3	0.00028	329		159
1 kg GWP of R-410A*			0.001 Mtons			TOTAL	159
			1,725				

Source: <http://www.epa.gov/stateply/documents/resources/mfggrfg.pdf>

Note: California requires use of refrigerant R-410A (AZ-20) as of January 1, 2009, which is a replacement gas for R-22 refrigerant. R-410A is a combination of pentafluoroethane (R-125) and difluoromethane (R-32). It is 5% more efficient than R-22.

Note: Charge capacity of ducted 3 ton residential AC unit is 2.8 kg. charge capacity of single rooftop commercial 7.5 ton unit is 6.9 kg. <http://www.arap.org/adlittle-1999/6.html>

Assumptions:	AC unit tonnage	Capacity of Charge
3 Ton AC unit for single-family (xx sqft)	3	2.8
7.5 Ton AC unit for per 5,000 sqft of non-residential	7.5	6.9
3 Ton AC unit for apartments/condos	4	3.7



Jurisdiction Profile for City of San Bernardino

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[Assistance](#)
[Contacts](#)
[Map](#)
[Charts](#)
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General Information

Jurisdiction: San Bernardino
 County: San Bernardino
 Size: 55.0 Sq./Miles
 Geographic Area: Southern California
 Rural/Urban: Urban
 (L)EA: [CIWMB](#)

State Representatives

3 Senate District(s) [More...](#)
[Dutton, Robert \(R\)](#) Senate District [31](#)
[McLeod, Gloria Negrete \(D\)](#) Senate District [32](#)
[Runner, George \(R\)](#) Senate District [17](#)
5 Assembly District(s) [More...](#)
[Adams, Anthony \(R\)](#) Assembly District [59](#)
[Carter, Wilmer Amina \(D\)](#) Assembly District [62](#)
[Cook, Paul \(R\)](#) Assembly District [65](#)
[Emmerson, Bill \(R\)](#) Assembly District [63](#)
[Torres, Norma J. \(D\)](#) Assembly District [61](#)

[US Senate Information](#) [US Representative Information](#)
[County Information](#) [City Information](#)

Household Materials Generators (2004)

	Amount	Rank (of 530)
Population:	186,400	27
Population Density:	3,389 /sq mile	
Single Family Units:	38,893	33
Multi-Family Units:	20,831	31
Mobile Home Units:	4,676	26

Business Materials Generators

Taxable Sales (2000):	\$2,349,850,000
Employment (2000):	57,697
Businesses (2000):	4,696

Household Materials Collection

Household Diversion (2006)
 Residential Curbside Recyclable Collection: **Yes**
 Residential Curbside Greenwaste Collection: **Yes**
 Residential Curbside HHW Collection: **Yes**

Business Materials Collection

Business Diversion (2006)
 Commercial On-Site Recyclable Pickup: **Yes**
 Commercial On-Site Greenwaste Pickup: **Yes**

Top 4 Specific Materials in Household Disposal (Based on 1999 Statewide [Estimates](#))

Specific Material Type	%	Tons
Food	20.0%	15,248
Leaves and Grass	10.5%	7,991
Remainder/Composite Organic	9.5%	7,226
Remainder/Composite Paper	8.1%	6,144

[More...](#)

Top 4 Specific Materials in Business Disposal (Based on 1999 Statewide [Estimates](#))

Specific Material Type	%	Tons/Yr
Food	18.7%	14,190
Remainder/Composite Paper	11.6%	8,854
Uncoated Corrugated Cardboard	6.4%	4,852
Leaves and Grass	5.8%	4,395

[More...](#)

Household Disposal by Overall Materials (Based on 2000 Statewide [Estimates](#))

Business Disposal By General Material Category (Based on 1999 Statewide [Estimates](#))

<i>Material General Category</i>	<i>%</i>	<i>Tons</i>	<i>Material Category</i>	<i>%</i>	<i>Tons</i>
Other Organic	45.0%	34,304	Paper	33.8%	25,725
Paper	27.5%	20,927	Glass	2.7%	2,082
Plastic	8.8%	6,744	Metal	5.8%	4,391
Metal	4.6%	3,527	Plastic	9.0%	6,844
Construction and Demolition	4.5%	3,415	Other Organic	32.6%	24,767
Glass	4.0%	3,077	Construction and Demolition	9.0%	6,867
Mixed Residue	4.0%	3,050	Household Hazardous Waste	0.2%	156
Household Hazardous Waste	0.3%	246	Special Waste	0.1%	51
Special Waste	0.0%	18	Mixed Residue	0.5%	370

Household Disposal Rates (2007)
30% of overall disposal

Total Household Waste Disposal (Tons/Yr.) 68,465

Top 4 Business Types with the Most Disposal
(Based on 2000 Statewide [Estimates](#))

<i>Sector</i>	<i>%</i>	<i>Tons/Yr</i>
Services-Medical / Health	16.7%	12,327
Retail Trade-Restaurants	16.5%	12,143
Retail Trade-Other	8.5%	6,280
Services-Education	7.8%	5,716

[More...](#)

Business Disposal Rates (2004)
70.0% of overall disposal

Total Business Waste Disposal (Tons/Yr) 159,751

Waste Stream Information Profiles <http://www.ciwmb.ca.gov/Profiles/>
CIWMB Webmaster: webmaster@ciwmb.ca.gov (916) 341-6141 [Disclaimer Information](#)

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Total Change in GHG Emissions:

0 MTCO₂E

This is equivalent to...

Removing	-	Passenger Cars from the Roadway Each Year
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Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA report:

Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks (EPA530-R-02-006) -- available on the Internet at <http://www.epa.gov/mswclimate/greengas.pdf> (1.1 Mb PDF file).

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

Energy From Waste Disposal - Potential Only (2030)

Jurisdiction Profile for the City of San Bernardino		
	Business	Residential
Other Organic	32.6%	45.0%
Paper	33.8%	27.5%
Plastic	9.0%	8.8%
Metal	5.8%	4.6%
Construction and Demolition	9.0%	4.5%
Glass	2.7%	4.0%
Mixed Residue	0.5%	4.0%
Household Hazardous Waste	0.2%	0.3%
Special Waste	0.1%	0.0%

Source: California Integrated Waste Management Board.2009. Jurisdiction Profile for the City of San Bernardino. Based on 1999 and 2000 Statewide Estimates <http://www.ciwmb.ca.gov/Profiles/Juris>

Project-Generated Solid Waste

Total Units	329 Units
Total Household (Tons/day)	2.0 tons/day
Total Residential	4,020 lbs/day

* Based on a generation rate of 2.23 tons/household per year

Total	4,020 lbs/day
	2 Tons/day

Project-Generated Solid Waste by Type		
	lbs/day	tons/year
Other Organic	1,809	330
Paper	1,106	202
Plastic	354	65
Metal	185	34
Construction and Demolition	181	33
Glass	161	29
Mixed Residue	161	29
Household Hazardous Waste	12	2
Special Waste	0	0
	3,968	724

Conversion 0.0005 tons/lbs

WARM FIELDS		
Glass	29	
Mixed Paper (general)	202	
Mixed Metals	34	
Mixed Plastics	65	
Mixed Organics	330	
Mixed MSW	32	
Concrete ¹	33	
FROM WARM	168	Metric Tons of CO2e
	185	Short Tons of CO2e
metric tons to short tons conversion	1.102311	tons/metric ton

Energy Use from Project-Related Water Demand

Based on Section 4.8 = 420 gallons/day/residential unit

Total project-related water demand	413,813	Gallons per day
1 AFY = 325,851.429 Gallons	151,041,672	gallons per year
	0.4	million gallons per day
Energy-intensity	5,255	Kwh/MG day

CO2 Emissions from Water Demand

	1,172,638	lbs of CO2e/year
	3,213	lbs of CO2e/day
Project-related water-energy	586.3	tons of CO2e/year
	531.9	metrics tons of CO2e/year

Table 1-3: Electricity Use in Typical Urban Water Systems		Kwh/MG	
	Northern California	Southern California	
Water Supply and Conveyance	150	8,900	
Water Treatment	100	100	
Water Distribution	1,200	1,200	
Wastewater Treatment	2,500	2,500	
Total	3,950	12,700	

California Energy Emission Factors			
	0.61	lbs of CO2/kwh	For California
	0.0000067	lbs of CH4/kwh	For California
	0.00000378	lbs of N2O/kwh	For California
Conversion to CO2e		CH4	N2O
		21	310
	lbs of CO2e/kwh	0.611	

Sources

California Energy Commission. 2005, November. California's Water-Energy Relationship. CEC-700.2005-011-SF.

US Energy Information Administration (US EIA). 2002, April. Voluntary Reporting of Greenhouse Gases Program, Average Electricity Factors by State and Region. <http://www.eia.doe.gov/oiaf/1605/ee-factors.html>

Energy Intensity: Amount of energy consumed per unit of water to perform water management-related actions (i.e., desalting, pumping, pressurizing, groundwater extraction, conveyance, and treatment)

Kwh/MG: kilowatt hours per million gallon of water

Conversion:	0.0005	lbs in a ton
	0.9071847	tons in a Metric Ton

Mitigation Measure 2-3

				0.002046	g/lbs	USING TIER 3 (URBEMIS)		
Grading				NOx Tier 3 (g/bhhr)	NOx Tier 3 (lbs/bhhr)	NOx Tier 3 (lbs/day)		
<i>March 24, 2010 to June 20, 2010</i>								
8	Crawler Tractors	147 hp	0.64 load factor	8 hour/day	2.85	0.0058311	35.11	
8	Graders	174 hp	0.61 load factor	8 hour/day	2.85	0.0058311	39.61	
8	Rubber Tired Dozers	357 hp	0.59 load factor	8 hour/day	2.85	0.0058311	78.61	
8	Scrapers	313 hp	0.72 load factor	8 hour/day	2.85	0.0058311	84.10	
2	Water Trucks	189 hp	0.5 load factor	8 hour/day	2.85	0.0058311	8.82	
		hp	load factor	8 hour/day	2.85	0.0058311	0.00	
		hp	load factor	8 hour/day	2.85	0.0058311	0.00	
							246.24	385.11 lbs/day
								138.87 lbs/day
								36.06%

According to SCAQMD Off-road MM, NMHC+NOx = 95% NOx and 5% VOC

				0.002046	g/lbs	USING TIER 2 (URBEMIS)		
March 24, 2010 to June 20, 2010				NOx Tier 2 (g/bhhr)	NOx Tier 2 (lbs/bhhr)	NOx Tier 2 (lbs/day)		
8	Crawler Tractors	147 hp	0.64 load factor	8 hour/day	4.655	0.00952413	57.35	
8	Graders	174 hp	0.61 load factor	8 hour/day	4.655	0.00952413	64.70	
8	Rubber Tired Dozers	357 hp	0.59 load factor	8 hour/day	4.56	0.00932976	125.77	
8	Scrapers	313 hp	0.72 load factor	8 hour/day	4.56	0.00932976	134.56	
2	Water Trucks	189 hp	0.5 load factor	8 hour/day	4.655	0.00952413	14.40	
0		0 hp	0 load factor	8 hour/day	4.655	0.00952413	0.00	
0		0 hp	0 load factor	8 hour/day	4.655	0.00952413	0.00	
							396.78	385.11 lbs/day
								-11.67 lbs/day
								-3.03%

				0.002046	g/lbs	USING TIER 3 (URBEMIS)		
Trenching				NOx Tier 3 (g/bhhr)	NOx Tier 3 (lbs/bhhr)	NOx Tier 3 (lbs/day)		
<i>June, 4 2010 to November 15, 2010</i>								
2	Excavator	168 hp	0.57 load factor	8 hour/day	2.85	0.0058311	8.93	
1	Other General Ind. Equip.	238 hp	0.51 load factor	8 hour/day	2.85	0.0058311	5.66	
1	Tractors/Loaders/Backhoes	108 hp	0.55 load factor	8 hour/day	2.85	0.0058311	2.77	
0	Scrapers	313 hp	0.72 load factor	8 hour/day	0	0	0.00	
0	Rubber-Tired Loaders	164 hp	0.54 load factor	8 hour/day	0	0	0.00	
0		hp	0.78 load factor	8 hour/day	0	0	0.00	
0	Water Trucks	189 hp	0.5 load factor	8 hour/day	0	0	0.00	
							17.37	17.69 lbs/day
								0.32 lbs/day
								1.82%

According to SCAQMD Off-road MM, NMHC+NOx = 95% NOx and 5% VOC

				0.002046	g/lbs	USING TIER 3 (URBEMIS)		
Asphalt Paving				NOx Tier 3 (g/bhhr)	NOx Tier 3 (lbs/bhhr)	NOx Tier 3 (lbs/day)		
<i>June 21, 2010 to September 21, 2010</i>								
1	Grader	174 hp	0.61 load factor	8 hour/day	2.85	0.0058311	4.95	
1	Paver	100 hp	0.62 load factor	7 hour/day	2.85	0.0058311	2.53	
1	Paving Equipment	104 hp	0.53 load factor	6 hour/day	2.85	0.0058311	1.93	
2	Rollers	95 hp	0.56 load factor	7 hour/day	2.85	0.0058311	4.34	
4	Cement Mortar & Mixer	10 hp	0.56 load factor	6 hour/day	5.82	0.01190772	1.60	
		hp	load factor	8 hour/day	0	0	0.00	
		hp	load factor	8 hour/day	0	0	0.00	
							15.35	22.17 lbs/day
								6.82 lbs/day
								30.74%

According to SCAQMD Off-road MM, NMHC+NOx = 95% NOx and 5% VOC

				0.002046	g/lbs	USING TIER 3 (URBEMIS)		
Building Construction				NOx Tier 3 (g/bhhr)	NOx Tier 3 (lbs/bhhr)	NOx Tier 3 (lbs/day)		
<i>November 15, 2010 to April 24, 2013</i>								
2	Air Compressors	106 hp	0.48 load factor	8 hour/day	2.85	0.0058311	4.75	
2	Other Equipment	190 hp	0.62 load factor	8 hour/day	2.85	0.0058311	10.99	
2	Rough Terrain Forklifts	93 hp	0.6 load factor	8 hour/day	2.85	0.0058311	5.21	
2	Cement and Mortar Mixers	10 hp	0.56 load factor	8 hour/day	5.32	0.01088472	0.98	
2	Generator Sets	49 hp	0.74 load factor	8 hour/day	5.32	0.01088472	6.31	
		hp	load factor	8 hour/day	0	0	0.00	
		hp	load factor	8 hour/day	0	0	0.00	
							28.23	31.35 lbs/day
								3.12 lbs/day
								9.94%

According to SCAQMD Off-road MM, NMHC+NOx = 95% NOx and 5% VOC

				0.002046	g/lbs	USING TIER 3 (URBEMIS)		
Asphalt Paving				NOx Tier 3 (g/bhhr)	NOx Tier 3 (lbs/bhhr)	NOx Tier 3 (lbs/day)		
<i>November 18, 2010 to February 1, 2011</i>								
1	Grader	174 hp	0.61 load factor	8 hour/day	2.85	0.0058311	4.95	
1	Paver	100 hp	0.62 load factor	8 hour/day	2.85	0.0058311	2.89	
1	Paving Equipment	104 hp	0.53 load factor	8 hour/day	2.85	0.0058311	2.57	
2	Rollers	95 hp	0.56 load factor	6 hour/day	2.85	0.0058311	3.72	
4	Cement Mortar & Mixer	10 hp	0.56 load factor	8 hour/day	5.32	0.01088472	1.95	
		hp	load factor	8 hour/day	0	0	0.00	
		hp	load factor	8 hour/day	0	0	0.00	
							16.09	22.93 lbs/day
								6.84 lbs/day
								29.84%

According to SCAQMD Off-road MM, NMHC+NOx = 95% NOx and 5% VOC

Spring Trails - Mitigated On-Site Construction Pollutant Emissions

Construction Activity	NOx (lbs/day)
mass grading	
grading dust	0
off-road	246.24
on-road	336.12
worker	0.53
<i>total</i>	582.89
trenching	
off-road	17.37
worker	0.06
<i>total</i>	17.43
asphalt	
off-gas	0
off-road	15.35
on-road	0.75
worker	0.14
<i>total</i>	16.24
asphalt	
off-gas	0
off-road	16.09
on-road	5.38
worker	0.14
<i>total</i>	21.61
building	
off-road	28.23
vendor	8.38
worker	2.93
<i>total</i>	39.54
coating	
coating	0
worker	0.08
<i>total</i>	0.08
maximum emissions	600.32