

Air Quality

APPENDIX A

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Sara Gerrick\Application Data\Urbemis\Version9a\Projects\New Willow Springs II.urb924

Project Name: Willow Springs II

Project Location: Santa Barbara County APCD

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)	3.68	35.55	17.00	0.01	120.05	1.61	121.67	25.08	1.48	26.56	3,748.66
2010 TOTALS (lbs/day mitigated)	3.68	31.80	17.00	0.01	12.02	0.55	12.58	2.52	0.51	3.03	3,748.66
2011 TOTALS (lbs/day unmitigated)	59.87	17.78	20.95	0.01	0.04	1.34	1.35	0.02	1.23	1.24	2,515.17
2011 TOTALS (lbs/day mitigated)	54.16	15.43	20.95	0.01	0.04	0.24	0.28	0.02	0.22	0.23	2,515.17

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)	5.74	0.77	1.87	0.00	0.01	0.01	965.57

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)	5.82	7.22	64.91	0.04	8.39	1.62	4,437.66

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)	11.56	7.99	66.78	0.04	8.40	1.63	5,403.23

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 11/1/2010-12/30/2010 Active Days: 44	<u>3.68</u>	<u>35.55</u>	<u>17.00</u>	<u>0.01</u>	<u>120.05</u>	<u>1.61</u>	<u>121.67</u>	<u>25.08</u>	<u>1.48</u>	<u>26.56</u>	<u>3,748.66</u>
Mass Grading 11/01/2010-12/30/2010	3.68	35.55	17.00	0.01	120.05	1.61	121.67	25.08	1.48	26.56	3,748.66
Mass Grading Dust	0.00	0.00	0.00	0.00	120.00	0.00	120.00	25.06	0.00	25.06	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.62	10.46	3.20	0.01	0.05	0.36	0.41	0.02	0.33	0.35	1,415.97
Mass Grading Worker Trips	0.06	0.10	1.33	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.38
Time Slice 1/3/2011-6/30/2011 Active Days: 129	<u>3.87</u>	<u>17.78</u>	<u>20.95</u>	<u>0.01</u>	<u>0.04</u>	<u>1.21</u>	<u>1.25</u>	<u>0.02</u>	<u>1.11</u>	<u>1.12</u>	<u>2,515.17</u>
Building 01/01/2011-06/30/2011	3.87	17.78	20.95	0.01	0.04	1.21	1.25	0.02	1.11	1.12	2,515.17
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.11	1.44	1.19	0.00	0.01	0.05	0.06	0.00	0.05	0.05	279.46
Building Worker Trips	0.37	0.67	8.91	0.01	0.03	0.02	0.05	0.01	0.02	0.03	614.52
Time Slice 7/1/2011-8/30/2011 Active Days: 43	<u>59.87</u>	<u>15.60</u>	<u>12.44</u>	<u>0.00</u>	<u>0.01</u>	<u>1.34</u>	<u>1.35</u>	<u>0.00</u>	<u>1.23</u>	<u>1.24</u>	<u>1,529.38</u>
Asphalt 07/01/2011-08/30/2011	2.67	15.53	11.61	0.00	0.01	1.34	1.35	0.00	1.23	1.23	1,472.44
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.48	15.15	9.07	0.00	0.00	1.33	1.33	0.00	1.22	1.22	1,272.04
Paving On Road Diesel	0.01	0.20	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	29.70
Paving Worker Trips	0.10	0.19	2.48	0.00	0.01	0.01	0.01	0.00	0.00	0.01	170.70
Coating 07/01/2011-08/30/2011	57.20	0.06	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.94
Architectural Coating	57.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.94

Phase Assumptions

Phase: Mass Grading 11/1/2010 - 12/30/2010 - Default Fine Site Grading Description

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Total Acres Disturbed: 5.5

Maximum Daily Acreage Disturbed: 1.38

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 900 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 351.7

Off-Road Equipment:

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

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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

Phase: Paving 7/1/2011 - 8/30/2011 - Default Paving Description

Acres to be Paved: 1.38

Off-Road Equipment:

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

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

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

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 1/1/2011 - 6/30/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 7/1/2011 - 8/30/2011 - Default Architectural Coating Description

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

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

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 11/1/2010-12/30/2010 Active Days: 44	<u>3.68</u>	<u>31.80</u>	<u>17.00</u>	<u>0.01</u>	<u>12.02</u>	<u>0.55</u>	<u>12.58</u>	<u>2.52</u>	<u>0.51</u>	<u>3.03</u>	<u>3,748.66</u>
Mass Grading 11/01/2010-12/30/2010	3.68	31.80	17.00	0.01	12.02	0.55	12.58	2.52	0.51	3.03	3,748.66
Mass Grading Dust	0.00	0.00	0.00	0.00	11.97	0.00	11.97	2.50	0.00	2.50	0.00
Mass Grading Off Road Diesel	3.00	21.24	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Mass Grading On Road Diesel	0.62	10.46	3.20	0.01	0.05	0.36	0.41	0.02	0.33	0.35	1,415.97
Mass Grading Worker Trips	0.06	0.10	1.33	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.38
Time Slice 1/3/2011-6/30/2011 Active Days: 129	<u>3.87</u>	<u>15.43</u>	<u>20.95</u>	<u>0.01</u>	<u>0.04</u>	<u>0.24</u>	<u>0.28</u>	<u>0.02</u>	<u>0.22</u>	<u>0.23</u>	<u>2,515.17</u>
Building 01/01/2011-06/30/2011	3.87	15.43	20.95	0.01	0.04	0.24	0.28	0.02	0.22	0.23	2,515.17
Building Off Road Diesel	3.39	13.32	10.85	0.00	0.00	0.17	0.17	0.00	0.16	0.16	1,621.20
Building Vendor Trips	0.11	1.44	1.19	0.00	0.01	0.05	0.06	0.00	0.05	0.05	279.46
Building Worker Trips	0.37	0.67	8.91	0.01	0.03	0.02	0.05	0.01	0.02	0.03	614.52

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Time Slice 7/1/2011-8/30/2011	<u>54.16</u>	13.32	12.44	0.00	0.01	0.21	0.23	0.00	0.20	0.20	1,529.38
Active Days: 43											
Asphalt 07/01/2011-08/30/2011	2.67	13.26	11.61	0.00	0.01	0.21	0.22	0.00	0.19	0.20	1,472.44
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.48	12.88	9.07	0.00	0.00	0.20	0.20	0.00	0.18	0.18	1,272.04
Paving On Road Diesel	0.01	0.20	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	29.70
Paving Worker Trips	0.10	0.19	2.48	0.00	0.01	0.01	0.01	0.00	0.00	0.01	170.70
Coating 07/01/2011-08/30/2011	51.48	0.06	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.94
Architectural Coating	51.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.94

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 11/1/2010 - 12/30/2010 - Default Fine Site Grading 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 Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

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

PM10: 55% PM25: 55%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

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PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

The following mitigation measures apply to Phase: Paving 7/1/2011 - 8/30/2011 - Default Paving Description

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 1/1/2011 - 6/30/2011 - Default Building Construction Description

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 7/1/2011 - 8/30/2011 - Default Architectural Coating Description

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

ROG: 10%

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

ROG: 10%

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

ROG: 10%

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

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<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	0.06	0.75	0.32	0.00	0.00	0.00	962.76
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	4.89						
Architectural Coatings	0.67						
TOTALS (lbs/day, unmitigated)	5.74	0.77	1.87	0.00	0.01	0.01	965.57

Area Source Changes to Defaults

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>
Apartments mid rise	5.82	7.22	64.91	0.04	8.39	1.62	4,437.66
TOTALS (lbs/day, unmitigated)	5.82	7.22	64.91	0.04	8.39	1.62	4,437.66

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments mid rise	5.50	6.71	dwelling units	100.00	671.00	4,871.59
					671.00	4,871.59

Vehicle Fleet Mix

Vehicle Type	Percent	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.3		1.3	98.3	0.4
Light Truck < 3750 lbs	16.6		1.8	94.6	3.6
Light Truck 3751-5750 lbs	20.4		1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5		0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5		0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0		0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1		0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3		0.0	33.3	66.7
Other Bus	0.1		0.0	0.0	100.0
Urban Bus	0.1		0.0	0.0	100.0
Motorcycle	3.7		62.2	37.8	0.0
School Bus	0.2		0.0	0.0	100.0
Motor Home	1.2		8.3	83.4	8.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Sara Gerrick\Application Data\Urbemis\Version9a\Projects\New Willow Springs II.urb924

Project Name: Willow Springs II

Project Location: Santa Barbara County APCD

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)	0.08	0.78	0.37	0.00	2.64	0.04	2.68	0.55	0.03	0.58	82.47
2010 TOTALS (tons/year mitigated)	0.08	0.70	0.37	0.00	0.26	0.01	0.28	0.06	0.01	0.07	82.47
Percent Reduction	0.00	10.54	0.00	0.00	89.98	65.76	89.66	89.96	65.78	88.61	0.00
2011 TOTALS (tons/year unmitigated)	1.54	1.48	1.62	0.00	0.00	0.11	0.11	0.00	0.10	0.10	195.11
2011 TOTALS (tons/year mitigated)	1.41	1.28	1.62	0.00	0.00	0.02	0.02	0.00	0.02	0.02	195.11
Percent Reduction	8.00	13.53	0.00	0.00	0.00	81.17	78.88	0.00	81.33	80.42	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)	1.64	0.18	2.64	0.01	0.39	0.37	237.57

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)	1.08	1.39	11.98	0.01	1.53	0.29	795.67

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)	2.72	1.57	14.62	0.02	1.92	0.66	1,033.24

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

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	<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	0.08	0.78	0.37	0.00	2.64	0.04	2.68	0.55	0.03	0.58	82.47
Mass Grading 11/01/2010-12/30/2010	0.08	0.78	0.37	0.00	2.64	0.04	2.68	0.55	0.03	0.58	82.47
Mass Grading Dust	0.00	0.00	0.00	0.00	2.64	0.00	2.64	0.55	0.00	0.55	0.00
Mass Grading Off Road Diesel	0.07	0.55	0.27	0.00	0.00	0.03	0.03	0.00	0.03	0.03	49.44
Mass Grading On Road Diesel	0.01	0.23	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	31.15
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.88
2011	1.54	1.48	1.62	0.00	0.00	0.11	0.11	0.00	0.10	0.10	195.11
Building 01/01/2011-06/30/2011	0.25	1.15	1.35	0.00	0.00	0.08	0.08	0.00	0.07	0.07	162.23
Building Off Road Diesel	0.22	1.01	0.70	0.00	0.00	0.07	0.07	0.00	0.07	0.07	104.57
Building Vendor Trips	0.01	0.09	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.03
Building Worker Trips	0.02	0.04	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.64
Asphalt 07/01/2011-08/30/2011	0.06	0.33	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03	31.66
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.05	0.33	0.20	0.00	0.00	0.03	0.03	0.00	0.03	0.03	27.35
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Coating 07/01/2011-08/30/2011	1.23	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
Architectural Coating	1.23	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	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22

Phase Assumptions

Phase: Mass Grading 11/1/2010 - 12/30/2010 - Default Fine Site Grading Description
 Total Acres Disturbed: 5.5

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Maximum Daily Acreage Disturbed: 1.38

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 900 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 351.7

Off-Road Equipment:

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

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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

Phase: Paving 7/1/2011 - 8/30/2011 - Default Paving Description

Acres to be Paved: 1.38

Off-Road Equipment:

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

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

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

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 1/1/2011 - 6/30/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 7/1/2011 - 8/30/2011 - Default Architectural Coating Description

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

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

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2011	1.41	1.28	1.62	0.00	0.00	0.02	0.02	0.00	0.02	0.02	195.11
Building 01/01/2011-06/30/2011	0.25	1.00	1.35	0.00	0.00	0.02	0.02	0.00	0.01	0.02	162.23
Building Off Road Diesel	0.22	0.86	0.70	0.00	0.00	0.01	0.01	0.00	0.01	0.01	104.57
Building Vendor Trips	0.01	0.09	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.03
Building Worker Trips	0.02	0.04	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.64
Asphalt 07/01/2011-08/30/2011	0.06	0.29	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.66
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.05	0.28	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.35
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Coating 07/01/2011-08/30/2011	1.11	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
Architectural Coating	1.11	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	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 11/1/2010 - 12/30/2010 - Default Fine Site Grading 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 Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

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

PM10: 55% PM25: 55%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

The following mitigation measures apply to Phase: Paving 7/1/2011 - 8/30/2011 - Default Paving Description

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

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PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 1/1/2011 - 6/30/2011 - Default Building Construction Description

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

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

PM10: 85% PM25: 85%

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

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 7/1/2011 - 8/30/2011 - Default Architectural Coating Description

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

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ROG: 10%

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

ROG: 10%

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

ROG: 10%

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

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES 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	0.01	0.14	0.06	0.00	0.00	0.00	175.70
Hearth	0.61	0.04	2.44	0.01	0.39	0.37	61.62
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.89						
Architectural Coatings	0.12						
TOTALS (tons/year, unmitigated)	1.64	0.18	2.64	0.01	0.39	0.37	237.57

Area Source Changes to Defaults

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>
Apartments mid rise	1.08	1.39	11.98	0.01	1.53	0.29	795.67
TOTALS (tons/year, unmitigated)	1.08	1.39	11.98	0.01	1.53	0.29	795.67

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 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
Apartments mid rise	5.50	6.71	dwelling units	100.00	671.00	4,871.59
					671.00	4,871.59

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.3	1.3	98.3	0.4
Light Truck < 3750 lbs	16.6	1.8	94.6	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	62.2	37.8	0.0
School Bus	0.2	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults