

# ***APPENDIX B***

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## ***AIR EMISSIONS MODEL OUTPUT***

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Urbemis 2007 Version 9.2.4

## Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Chumash\Chumash - Alternative A.urb924

Project Name: Chumash - Alternative A

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>
2013 TOTALS (tons/year unmitigated)	2.05	11.46	8.21	0.00	54.17	0.63	54.80	11.31	0.58	11.89	1,436.58
2013 TOTALS (tons/year mitigated)	1.64	11.46	8.21	0.00	22.13	0.32	22.45	4.62	0.29	4.92	1,436.58
Percent Reduction	19.88	0.00	0.00	0.00	59.15	49.17	59.03	59.14	49.23	58.66	0.00
2014 TOTALS (tons/year unmitigated)	3.64	19.17	14.34	0.00	99.20	1.03	100.23	20.72	0.95	21.66	2,605.49
2014 TOTALS (tons/year mitigated)	2.91	19.17	14.34	0.00	40.53	0.52	41.05	8.47	0.48	8.95	2,605.49
Percent Reduction	20.00	0.00	0.00	0.00	59.15	49.10	59.04	59.14	49.17	58.70	0.00
2015 TOTALS (tons/year unmitigated)	3.46	17.62	13.74	0.00	99.20	0.95	100.14	20.72	0.87	21.59	2,605.47
2015 TOTALS (tons/year mitigated)	2.73	17.62	13.74	0.00	40.53	0.48	41.01	8.47	0.44	8.91	2,605.47
Percent Reduction	21.02	0.00	0.00	0.00	59.15	49.07	59.05	59.14	49.14	58.74	0.00
2016 TOTALS (tons/year unmitigated)	2.68	12.33	10.34	0.00	98.98	0.58	99.56	20.67	0.53	21.21	2,058.58

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2016 TOTALS (tons/year mitigated)	1.96	12.33	10.34	0.00	40.43	0.30	40.73	8.45	0.27	8.72	2,058.58
Percent Reduction	27.11	0.00	0.00	0.00	59.15	48.76	59.09	59.14	48.85	58.88	0.00
2017 TOTALS (tons/year unmitigated)	0.73	1.61	2.20	0.00	8.29	0.08	8.37	1.73	0.07	1.81	374.77
2017 TOTALS (tons/year mitigated)	0.32	1.61	2.20	0.00	3.39	0.04	3.43	0.71	0.04	0.75	374.77
Percent Reduction	56.50	0.00	0.00	0.00	59.11	46.51	58.99	59.07	46.77	58.57	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)	2.67	0.40	4.34	0.01	0.55	0.53	509.81

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)	1.33	1.70	14.57	0.02	3.12	0.60	1,629.07

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)	4.00	2.10	18.91	0.03	3.67	1.13	2,138.88

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>
2013	2.05	11.46	8.21	0.00	54.17	0.63	54.80	11.31	0.58	11.89	1,436.58









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2017	0.73	1.61	2.20	0.00	8.29	0.08	8.37	1.73	0.07	1.81	374.77
Building 06/25/2013-06/20/2017	0.18	0.96	1.78	0.00	0.01	0.05	0.06	0.00	0.05	0.05	270.16
Building Off Road Diesel	0.14	0.83	0.76	0.00	0.00	0.05	0.05	0.00	0.04	0.04	137.82
Building Vendor Trips	0.01	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.53
Building Worker Trips	0.04	0.07	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.00	107.81
Coating 07/08/2013-06/30/2017	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Architectural Coating	0.47	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Fine Grading 06/15/2013-02/01/2017	0.09	0.65	0.42	0.00	8.28	0.03	8.31	1.73	0.03	1.76	104.15
Fine Grading Dust	0.00	0.00	0.00	0.00	8.28	0.00	8.28	1.73	0.00	1.73	0.00
Fine Grading Off Road Diesel	0.09	0.65	0.40	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.69
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45

Phase Assumptions

Phase: Fine Grading 6/15/2013 - 2/1/2017 - Type Your Description Here

Total Acres Disturbed: 144

Maximum Daily Acreage Disturbed: 36

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

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

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



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

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

Phase: Mass Grading 6/1/2013 - 12/15/2016 - Default Fine Site Grading Description

Total Acres Disturbed: 143.09

Maximum Daily Acreage Disturbed: 2

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 12.47

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 6/1/2013 - 12/31/2015 - Default Paving Description

Acres to be Paved: 36

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 0 hours per day

2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

2 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

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

3 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 6/25/2013 - 6/20/2017 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

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

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



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Fine Grading 06/15/2013-02/01/2017	0.68	5.60	3.03	0.00	20.88	0.13	21.01	4.36	0.12	4.48	642.99
Fine Grading Dust	0.00	0.00	0.00	0.00	20.88	0.00	20.88	4.36	0.00	4.36	0.00
Fine Grading Off Road Diesel	0.68	5.58	2.85	0.00	0.00	0.13	0.13	0.00	0.12	0.12	627.84
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.14
Building 06/25/2013-06/20/2017	0.29	1.52	2.50	0.00	0.01	0.05	0.06	0.00	0.05	0.05	301.18
Building Off Road Diesel	0.22	1.29	0.91	0.00	0.00	0.04	0.04	0.00	0.04	0.04	153.63
Building Vendor Trips	0.01	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.34
Building Worker Trips	0.06	0.11	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	120.21
Coating 07/08/2013-06/30/2017	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
Architectural Coating	0.05	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
2014	2.91	19.17	14.34	0.00	40.53	0.52	41.05	8.47	0.48	8.95	2,605.49
Asphalt 06/01/2013-12/31/2015	0.68	4.42	2.92	0.00	0.00	0.16	0.16	0.00	0.15	0.15	533.78
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	0.65	4.36	2.53	0.00	0.00	0.16	0.16	0.00	0.15	0.15	493.94
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.44
Paving Worker Trips	0.02	0.03	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.40
Building 06/25/2013-06/20/2017	0.50	2.69	4.53	0.00	0.01	0.09	0.10	0.01	0.08	0.08	577.99
Building Off Road Diesel	0.38	2.30	1.70	0.00	0.00	0.07	0.07	0.00	0.07	0.07	294.84
Building Vendor Trips	0.02	0.19	0.18	0.00	0.00	0.01	0.01	0.00	0.01	0.01	52.47
Building Worker Trips	0.10	0.19	2.64	0.00	0.01	0.01	0.02	0.00	0.01	0.01	230.68







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2017	0.32	1.61	2.20	0.00	3.39	0.04	3.43	0.71	0.04	0.75	374.77
Building 06/25/2013-06/20/2017	0.18	0.96	1.78	0.00	0.01	0.03	0.04	0.00	0.03	0.03	270.16
Building Off Road Diesel	0.14	0.83	0.76	0.00	0.00	0.02	0.02	0.00	0.02	0.02	137.82
Building Vendor Trips	0.01	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.53
Building Worker Trips	0.04	0.07	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.00	107.81
Coating 07/08/2013-06/30/2017	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Architectural Coating	0.05	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Fine Grading 06/15/2013-02/01/2017	0.09	0.65	0.42	0.00	3.38	0.01	3.40	0.71	0.01	0.72	104.15
Fine Grading Dust	0.00	0.00	0.00	0.00	3.38	0.00	3.38	0.71	0.00	0.71	0.00
Fine Grading Off Road Diesel	0.09	0.65	0.40	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.69
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/15/2013 - 2/1/2017 - Type Your Description Here

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

PM10: 55% PM25: 55%

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 Excavators, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

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For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Scrapers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

The following mitigation measures apply to Phase: Mass Grading 6/1/2013 - 12/15/2016 - Default Fine Site Grading Description

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

PM10: 55% PM25: 55%

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) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

The following mitigation measures apply to Phase: Paving 6/1/2013 - 12/31/2015 - Default Paving Description

For Pavers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%



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For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Other Equipment, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

The following mitigation measures apply to Phase: Building Construction 6/25/2013 - 6/20/2017 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Forklifts, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Generator Sets, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Welders, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

The following mitigation measures apply to Phase: Architectural Coating 7/8/2013 - 6/30/2017 - 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%

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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	0.03	0.33	0.14	0.00	0.00	0.00	420.38
Hearth	0.88	0.06	3.49	0.01	0.55	0.53	88.25
Landscape	0.11	0.01	0.71	0.00	0.00	0.00	1.18
Consumer Products	1.28						
Architectural Coatings	0.37						
TOTALS (tons/year, unmitigated)	2.67	0.40	4.34	0.01	0.55	0.53	509.81

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>
Single family housing	1.33	1.70	14.55	0.02	3.12	0.60	1,627.17
Wastewater Treatment Plant	0.00	0.00	0.02	0.00	0.00	0.00	1.90
TOTALS (tons/year, unmitigated)	1.33	1.70	14.57	0.02	3.12	0.60	1,629.07

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2017 Season: Annual

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	143.00	9.57	dwelling units	143.00	1,368.51	9,935.66
Wastewater Treatment Plant		1.00	1000 sq ft	2.00	2.00	11.40
					1,370.51	9,947.06

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	0.2	99.6	0.2
Light Truck < 3750 lbs	16.4	0.6	97.6	1.8
Light Truck 3751-5750 lbs	20.5	0.0	100.0	0.0
Med Truck 5751-8500 lbs	7.6	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	18.2	81.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.8	44.7	55.3	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	0.0	91.7	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)						
Wastewater Treatment Plant				100.0	0.0	0.0

Operational Changes to Defaults

## Urbemis 2007 Version 9.2.4

## Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Chumash\Chumash - Alternative B.urb924

Project Name: Chumash - Alternative B

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>
2013 TOTALS (tons/year unmitigated)	2.18	11.66	8.66	0.00	64.82	0.64	65.46	13.54	0.59	14.12	1,502.41
2013 TOTALS (tons/year mitigated)	1.68	11.66	8.66	0.00	26.48	0.33	26.81	5.53	0.30	5.83	1,502.41
Percent Reduction	22.87	0.00	0.00	0.00	59.15	48.63	59.04	59.14	48.69	58.70	0.00
2014 TOTALS (tons/year unmitigated)	3.90	19.49	15.12	0.00	118.78	1.04	119.82	24.81	0.96	25.76	2,725.89
2014 TOTALS (tons/year mitigated)	3.01	19.49	15.12	0.00	48.53	0.53	49.06	10.14	0.49	10.63	2,725.89
Percent Reduction	22.77	0.00	0.00	0.00	59.15	48.58	59.05	59.14	48.65	58.75	0.00
2015 TOTALS (tons/year unmitigated)	3.72	17.91	14.46	0.00	118.78	0.96	119.73	24.81	0.88	25.69	2,725.87
2015 TOTALS (tons/year mitigated)	2.83	17.91	14.46	0.00	48.53	0.49	49.02	10.14	0.45	10.59	2,725.87
Percent Reduction	23.88	0.00	0.00	0.00	59.15	48.56	59.06	59.14	48.64	58.78	0.00
2016 TOTALS (tons/year unmitigated)	2.93	12.57	10.99	0.00	118.56	0.59	119.15	24.76	0.54	25.30	2,175.57

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2016 TOTALS (tons/year mitigated)	2.05	12.57	10.99	0.00	48.43	0.31	48.74	10.12	0.28	10.40	2,175.57
Percent Reduction	30.27	0.00	0.00	0.00	59.15	48.04	59.09	59.14	48.16	58.90	0.00
2017 TOTALS (tons/year unmitigated)	0.85	1.64	2.46	0.00	10.01	0.08	10.10	2.09	0.08	2.17	407.45
2017 TOTALS (tons/year mitigated)	0.34	1.64	2.46	0.00	4.09	0.04	4.14	0.86	0.04	0.90	407.45
Percent Reduction	59.70	0.00	0.00	0.00	59.11	45.74	59.00	59.07	46.06	58.62	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)	2.78	0.50	4.56	0.01	0.55	0.53	626.86

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)	2.69	3.52	29.37	0.04	6.39	1.23	3,314.31

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)	5.47	4.02	33.93	0.05	6.94	1.76	3,941.17

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>
2013	2.18	11.66	8.66	0.00	64.82	0.64	65.46	13.54	0.59	14.12	1,502.41











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2017	0.85	1.64	2.46	0.00	10.01	0.08	10.10	2.09	0.08	2.17	407.45
Building 06/25/2013-06/20/2017	0.19	0.99	2.03	0.00	0.01	0.05	0.06	0.00	0.05	0.05	302.73
Building Off Road Diesel	0.14	0.83	0.76	0.00	0.00	0.05	0.05	0.00	0.04	0.04	137.82
Building Vendor Trips	0.01	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.46
Building Worker Trips	0.04	0.09	1.19	0.00	0.01	0.00	0.01	0.00	0.00	0.01	134.46
Coating 07/08/2013-06/30/2017	0.58	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
Architectural Coating	0.58	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
Fine Grading 06/15/2013-02/01/2017	0.09	0.65	0.42	0.00	10.01	0.03	10.03	2.09	0.03	2.12	104.15
Fine Grading Dust	0.00	0.00	0.00	0.00	10.01	0.00	10.01	2.09	0.00	2.09	0.00
Fine Grading Off Road Diesel	0.09	0.65	0.40	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.69
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45

Phase Assumptions

Phase: Fine Grading 6/15/2013 - 2/1/2017 - Type Your Description Here

Total Acres Disturbed: 174

Maximum Daily Acreage Disturbed: 43.5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

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

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

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

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

Phase: Mass Grading 6/1/2013 - 12/15/2016 - Default Fine Site Grading Description

Total Acres Disturbed: 143.09

Maximum Daily Acreage Disturbed: 2

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 106.03

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 6/1/2013 - 12/31/2015 - Default Paving Description

Acres to be Paved: 43.5

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 0 hours per day

2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

2 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

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

3 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 6/25/2013 - 6/20/2017 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

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

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





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Fine Grading 06/15/2013-02/01/2017	0.68	5.60	3.03	0.00	25.23	0.13	25.36	5.27	0.12	5.39	642.99
Fine Grading Dust	0.00	0.00	0.00	0.00	25.23	0.00	25.23	5.27	0.00	5.27	0.00
Fine Grading Off Road Diesel	0.68	5.58	2.85	0.00	0.00	0.13	0.13	0.00	0.12	0.12	627.84
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.14
Building 06/25/2013-06/20/2017	0.30	1.57	2.90	0.00	0.01	0.05	0.06	0.00	0.05	0.05	337.50
Building Off Road Diesel	0.22	1.29	0.91	0.00	0.00	0.04	0.04	0.00	0.04	0.04	153.63
Building Vendor Trips	0.01	0.14	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	33.95
Building Worker Trips	0.07	0.14	1.86	0.00	0.01	0.00	0.01	0.00	0.00	0.01	149.91
Coating 07/08/2013-06/30/2017	0.06	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
Architectural Coating	0.06	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
2014	3.01	19.49	15.12	0.00	48.53	0.53	49.06	10.14	0.49	10.63	2,725.89
Asphalt 06/01/2013-12/31/2015	0.69	4.42	2.93	0.00	0.00	0.16	0.16	0.00	0.15	0.15	535.12
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	0.65	4.36	2.53	0.00	0.00	0.16	0.16	0.00	0.15	0.15	493.94
Paving On Road Diesel	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.78
Paving Worker Trips	0.02	0.03	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.40
Building 06/25/2013-06/20/2017	0.53	2.78	5.23	0.00	0.02	0.09	0.11	0.01	0.08	0.09	647.68
Building Off Road Diesel	0.38	2.30	1.70	0.00	0.00	0.07	0.07	0.00	0.07	0.07	294.84
Building Vendor Trips	0.02	0.23	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	65.16
Building Worker Trips	0.13	0.24	3.30	0.00	0.02	0.01	0.02	0.01	0.01	0.01	287.68









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2017	0.34	1.64	2.46	0.00	4.09	0.04	4.14	0.86	0.04	0.90	407.45
Building 06/25/2013-06/20/2017	0.19	0.99	2.03	0.00	0.01	0.03	0.04	0.00	0.03	0.03	302.73
Building Off Road Diesel	0.14	0.83	0.76	0.00	0.00	0.02	0.02	0.00	0.02	0.02	137.82
Building Vendor Trips	0.01	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.46
Building Worker Trips	0.04	0.09	1.19	0.00	0.01	0.00	0.01	0.00	0.00	0.01	134.46
Coating 07/08/2013-06/30/2017	0.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
Architectural Coating	0.07	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
Fine Grading 06/15/2013-02/01/2017	0.09	0.65	0.42	0.00	4.09	0.01	4.10	0.85	0.01	0.87	104.15
Fine Grading Dust	0.00	0.00	0.00	0.00	4.09	0.00	4.09	0.85	0.00	0.85	0.00
Fine Grading Off Road Diesel	0.09	0.65	0.40	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.69
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/15/2013 - 2/1/2017 - Type Your Description Here

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

PM10: 55% PM25: 55%

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 Excavators, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

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For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Scrapers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

The following mitigation measures apply to Phase: Mass Grading 6/1/2013 - 12/15/2016 - Default Fine Site Grading Description

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

PM10: 55% PM25: 55%

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) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

The following mitigation measures apply to Phase: Paving 6/1/2013 - 12/31/2015 - Default Paving Description

For Pavers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

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For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Other Equipment, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

The following mitigation measures apply to Phase: Building Construction 6/25/2013 - 6/20/2017 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Forklifts, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Generator Sets, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

For Welders, the Diesel Particulate Filter (DPF) 2nd Tier mitigation reduces emissions by:

PM10: 50% PM25: 50%

The following mitigation measures apply to Phase: Architectural Coating 7/8/2013 - 6/30/2017 - 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%

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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	0.03	0.43	0.22	0.00	0.00	0.00	537.18
Hearth	0.88	0.06	3.49	0.01	0.55	0.53	88.25
Landscape	0.13	0.01	0.85	0.00	0.00	0.00	1.43
Consumer Products	1.28						
Architectural Coatings	0.46						
TOTALS (tons/year, unmitigated)	2.78	0.50	4.56	0.01	0.55	0.53	626.86

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>
Single family housing	1.33	1.70	14.55	0.02	3.12	0.60	1,627.17
Wastewater Treatment Plant	0.00	0.00	0.02	0.00	0.00	0.00	1.90
Tribal Community Development	1.36	1.82	14.80	0.02	3.27	0.63	1,685.24
TOTALS (tons/year, unmitigated)	2.69	3.52	29.37	0.04	6.39	1.23	3,314.31

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
Single family housing	143.00	9.57	dwelling units	143.00	1,368.51	9,935.66
Wastewater Treatment Plant		1.00	1000 sq ft	2.00	2.00	11.40
Tribal Community Development		22.88	1000 sq ft	80.00	1,830.40	10,403.99
					3,200.91	20,351.05

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	0.2	99.6	0.2
Light Truck < 3750 lbs	16.4	0.6	97.6	1.8
Light Truck 3751-5750 lbs	20.5	0.0	100.0	0.0
Med Truck 5751-8500 lbs	7.6	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	18.2	81.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.8	44.7	55.3	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	0.0	91.7	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)						
Wastewater Treatment Plant				100.0	0.0	0.0
Tribal Community Development				2.0	1.0	97.0

Operational Changes to Defaults



Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Chumash\Chumash - Cumulative Alternative A.urb924

Project Name: Chumash - Cumulative Alternative A

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:

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)	2.67	0.40	4.34	0.01	0.55	0.53	509.81

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)	0.76	0.75	7.41	0.02	3.12	0.60	1,618.65

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)	3.43	1.15	11.75	0.03	3.67	1.13	2,128.46

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	0.03	0.33	0.14	0.00	0.00	0.00	420.38
Hearth	0.88	0.06	3.49	0.01	0.55	0.53	88.25
Landscape	0.11	0.01	0.71	0.00	0.00	0.00	1.18
Consumer Products	1.28						
Architectural Coatings	0.37						
TOTALS (tons/year, unmitigated)	2.67	0.40	4.34	0.01	0.55	0.53	509.81

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>
Single family housing	0.76	0.75	7.40	0.02	3.12	0.60	1,616.76
Wastewater Treatment Plant	0.00	0.00	0.01	0.00	0.00	0.00	1.89
TOTALS (tons/year, unmitigated)	0.76	0.75	7.41	0.02	3.12	0.60	1,618.65

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2030 Season: Annual

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	143.00	9.57	dwelling units	143.00	1,368.51	9,935.66
Wastewater Treatment Plant		1.00	1000 sq ft	2.00	2.00	11.40
					1,370.51	9,947.06

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.9	0.0	100.0	0.0
Light Truck < 3750 lbs	16.1	0.0	99.4	0.6
Light Truck 3751-5750 lbs	20.3	0.0	100.0	0.0
Med Truck 5751-8500 lbs	7.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0
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	18.2	81.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.8	34.2	65.8	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.1	0.0	90.9	9.1

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)						
Wastewater Treatment Plant				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Chumash\Chumash - Cumulative Alternative B.urb924

Project Name: Chumash - Cumulative Alternative B

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:

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)	2.78	0.50	4.56	0.01	0.55	0.53	626.86

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)	1.54	1.56	14.93	0.04	6.39	1.23	3,293.01

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)	4.32	2.06	19.49	0.05	6.94	1.76	3,919.87

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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	0.03	0.43	0.22	0.00	0.00	0.00	537.18
Hearth	0.88	0.06	3.49	0.01	0.55	0.53	88.25
Landscape	0.13	0.01	0.85	0.00	0.00	0.00	1.43
Consumer Products	1.28						
Architectural Coatings	0.46						
TOTALS (tons/year, unmitigated)	2.78	0.50	4.56	0.01	0.55	0.53	626.86

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>
Single family housing	0.76	0.75	7.40	0.02	3.12	0.60	1,616.76
Wastewater Treatment Plant	0.00	0.00	0.01	0.00	0.00	0.00	1.89
Tribal Community Development	0.78	0.81	7.52	0.02	3.27	0.63	1,674.36
TOTALS (tons/year, unmitigated)	1.54	1.56	14.93	0.04	6.39	1.23	3,293.01

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
Single family housing	143.00	9.57	dwelling units	143.00	1,368.51	9,935.66
Wastewater Treatment Plant		1.00	1000 sq ft	2.00	2.00	11.40
Tribal Community Development		22.88	1000 sq ft	80.00	1,830.40	10,403.99
					3,200.91	20,351.05

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.9	0.0	100.0	0.0
Light Truck < 3750 lbs	16.1	0.0	99.4	0.6
Light Truck 3751-5750 lbs	20.3	0.0	100.0	0.0
Med Truck 5751-8500 lbs	7.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0
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	18.2	81.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.8	34.2	65.8	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.1	0.0	90.9	9.1

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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)						
Wastewater Treatment Plant				100.0	0.0	0.0
Tribal Community Development				2.0	1.0	97.0