



Appendix D:

Air Quality Data

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Murrieta-Existing

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)	2,145.43	635.88	1,600.17	0.07	4.59	4.55	786,413.75

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)	4,687.86	6,583.96	59,820.22	71.69	11,730.16	2,281.97	7,004,001.09

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	6,833.29	7,219.84	61,420.39	71.76	11,734.75	2,286.52	7,790,414.84

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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	47.45	621.35	312.43	0.01	1.18	1.16	784,343.77
Hearth							
Landscape	231.65	14.53	1,287.74	0.06	3.41	3.39	2,069.98
Consumer Products	1,674.28						
Architectural Coatings	192.05						
TOTALS (lbs/day, unmitigated)	2,145.43	635.88	1,600.17	0.07	4.59	4.55	786,413.75

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>
Single family housing	1,995.06	2,678.51	24,897.22	29.36	4,778.39	930.38	2,865,347.21
Apartments low rise	210.12	272.21	2,530.27	2.98	485.62	94.55	291,201.09
High school	130.08	182.67	1,632.62	1.98	325.34	63.25	193,650.59
City park	28.80	25.69	228.63	0.28	45.70	8.88	27,185.83
Strip mall	1,981.36	2,953.25	26,205.57	31.92	5,248.66	1,020.22	3,120,833.18
General office building	107.11	148.33	1,352.05	1.62	265.72	51.69	158,628.84
Office park	182.19	252.98	2,326.37	2.78	454.38	88.41	271,611.39
General light industry	53.14	70.32	647.49	0.77	126.35	24.59	75,542.96
TOTALS (lbs/day, unmitigated)	4,687.86	6,583.96	59,820.22	71.69	11,730.16	2,281.97	7,004,001.09

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 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	9,535.00	9.57	dwelling units	28,605.00	273,749.84	2,765,639.89
Apartments low rise	252.00	6.90	dwelling units	4,032.00	27,820.80	281,067.98
High school		12.89	1000 sq ft	1,577.34	20,331.91	188,375.17
City park		1.59	acres	1,832.50	2,913.68	26,463.45
Strip mall		42.94	1000 sq ft	7,887.88	338,705.55	3,039,204.79
General office building		11.01	1000 sq ft	1,372.86	15,115.19	153,834.83
Office park		11.42	1000 sq ft	2,162.33	24,693.81	263,038.46
General light industry		6.97	1000 sq ft	978.47	6,819.94	73,143.81
					710,150.72	6,790,768.38

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
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	0.5	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	60.7	39.3	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)						
High school				10.0	5.0	85.0
City park				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
General office building				35.0	17.5	47.5
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name:

Project Name: Murrieta-Existing

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)	1,913.78	621.35	312.43	0.01	1.18	1.16	784,343.77

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)	5,159.14	7,928.54	57,212.94	59.65	11,730.16	2,281.97	6,340,547.21

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)	7,072.92	8,549.89	57,525.37	59.66	11,731.34	2,283.13	7,124,890.98

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	47.45	621.35	312.43	0.01	1.18	1.16	784,343.77
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	1,674.28						
Architectural Coatings	192.05						
TOTALS (lbs/day, unmitigated)	1,913.78	621.35	312.43	0.01	1.18	1.16	784,343.77

Area Source Changes to Defaults

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Murrieta-Existing

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)	391.55	116.05	292.03	0.01	0.83	0.83	143,520.51

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)	884.21	1,283.36	10,758.58	12.35	2,140.75	416.46	1,237,870.10

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)	1,275.76	1,399.41	11,050.61	12.36	2,141.58	417.29	1,381,390.61

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	8.66	113.40	57.02	0.00	0.21	0.21	143,142.74
Hearth							
Landscape	42.28	2.65	235.01	0.01	0.62	0.62	377.77
Consumer Products	305.56						
Architectural Coatings	35.05						
TOTALS (tons/year, unmitigated)	391.55	116.05	292.03	0.01	0.83	0.83	143,520.51

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	373.75	522.19	4,472.77	5.06	872.06	169.80	506,488.62
Apartments low rise	39.08	53.07	454.56	0.51	88.63	17.26	51,473.71
High school	24.49	35.60	293.82	0.34	59.37	11.54	34,221.65
City park	5.01	5.01	41.17	0.05	8.34	1.62	4,804.13
Strip mall	377.53	575.54	4,720.04	5.50	957.88	186.19	551,488.91
General office building	20.14	28.92	242.78	0.28	48.49	9.43	28,035.47
Office park	34.30	49.32	417.31	0.48	82.92	16.13	48,005.74
General light industry	9.91	13.71	116.13	0.13	23.06	4.49	13,351.87
TOTALS (tons/year, unmitigated)	884.21	1,283.36	10,758.58	12.35	2,140.75	416.46	1,237,870.10

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 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	9,535.00	9.57	dwelling units	28,605.00	273,749.84	2,765,639.89
Apartments low rise	252.00	6.90	dwelling units	4,032.00	27,820.80	281,067.98
High school		12.89	1000 sq ft	1,577.34	20,331.91	188,375.17
City park		1.59	acres	1,832.50	2,913.68	26,463.45
Strip mall		42.94	1000 sq ft	7,887.88	338,705.55	3,039,204.79
General office building		11.01	1000 sq ft	1,372.86	15,115.19	153,834.83
Office park		11.42	1000 sq ft	2,162.33	24,693.81	263,038.46
General light industry		6.97	1000 sq ft	978.47	6,819.94	73,143.81
					710,150.72	6,790,768.38

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
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	0.5	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	60.7	39.3	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)						
High school				10.0	5.0	85.0
City park				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
General office building				35.0	17.5	47.5
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Emissions From Electricity Consumed By Land Uses

Land Use	Amount	kilowatt-hours per year ¹	CO 2.00E-04	ROG 1.00E-05	NO _x 1.15E-03	SO _x 1.20E-04	PM ₁₀ 4.00E-05	CO ₂ 0.772	N ₂ O 6.59E-06	CH ₄ 4.04E-05
Residential (Dwelling Units)	32,637	5626.5	100.62	5.03	578.57	60.37	20.12	388,394.43	3.32	20.31
Food Store (SF)		53.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Restaurant (SF)		47.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hospitals (SF)		21.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retail (SF)	7,887,887	13.55	58.56	2.93	336.75	35.14	11.71	226,060.36	1.93	11.82
College/University (SF)		11.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High School (SF)	1,577,344	10.5	9.08	0.45	52.18	5.45	1.82	35,030.00	0.30	1.83
Elementary School (SF)		5.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Office (SF)	3,535,196	12.95	25.09	1.25	144.24	15.05	5.02	96,829.50	0.83	5.06
Hotel/Motel (SF)		9.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warehouse (SF)	978,469	4.35	2.33	0.12	13.41	1.40	0.47	9,002.45	0.08	0.47
Miscellaneous (SF)		10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blank			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL - pounds per day	--	--	1.96E-01	9.78E+00	1.13E+03	1.17E+02	3.91E+01	755,316.74	6.45	39.50
TOTAL - tons per year	--	--	3.57E-02	1.79E+00	2.05E+02	2.14E+01	7.14E+00	137,845.31	1.18	7.21
TOTAL - metric tons per year	--	--	3.24E-02	1.62E+00	1.86E+02	1.94E+01	6.48E+00	125051.15	1.07	6.54

	CO ₂	N ₂ O	CH ₄
metric tons per year	125,051.15	1.07	6.54
metric tons CO₂eq per year	125,051.15	330.92	137.32

125,519.39

Notes:

1. Usage rate; average for SCE and LADWP.

Source:

South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993, Table A9-11.

Source for greenhouse gas emissions rates:

U.S. Energy Information Administration, *Domestic Electricity Emissions Factors 1999-2002*, October 2007. <http://www.eia.doe.gov/oiaf/1605/techassist.html>

Water Consumption Indirect Emissions

	Acre Feet per year	Electricity Usage kWh/year	Units	CO	ROG	NO _x	SO _x	PM ₁₀	CO ₂	N ₂ O	CH ₄
				2.00E-04	1.00E-05	1.15E-03	1.20E-04	4.00E-05	0.772	6.59E-06	4.04E-05
Project Demand	39179	17,160,402	pounds/yr	3.43E+03	1.72E+02	1.97E+04	2.06E+03	6.86E+02	1.32E+07	1.13E+02	6.93E+02
			tons/yr	1.72E+00	8.58E-02	9.87E+00	1.03E+00	3.43E-01	6.62E+03	5.65E-02	3.46E-01
			mt/yr	1.56E+00	7.78E-02	8.95E+00	9.34E-01	3.11E-01	6.01E+03	5.13E-02	3.14E-01
MTCO₂EQ									6009.11	17.53	7.27

Energy Factor 438 kWh/acre-foot

Based on energy usage factors for water conveyance from the California Energy Commission, Water Energy Use in California, Accessed May 2009.
<http://www.energy.ca.gov/research/iaw/industry/water.html>

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Murrieta-2035

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)	3,054.63	1,049.52	2,063.66	0.08	5.81	5.76	1,291,531.13

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)	10,214.49	14,479.04	131,018.97	157.63	25,812.33	5,020.57	15,398,749.46

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)	13,269.12	15,528.56	133,082.63	157.71	25,818.14	5,026.33	16,690,280.59

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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	78.00	1,033.00	599.45	0.01	1.93	1.91	1,289,177.81
Hearth							
Landscape	263.54	16.52	1,464.21	0.07	3.88	3.85	2,353.32
Consumer Products	2,282.03						
Architectural Coatings	431.06						
TOTALS (lbs/day, unmitigated)	3,054.63	1,049.52	2,063.66	0.08	5.81	5.76	1,291,531.13

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>
Single family housing	2,270.77	3,048.66	28,337.83	33.42	5,438.72	1,058.96	3,261,317.06
Apartments low rise	621.49	805.16	7,484.12	8.83	1,436.39	279.67	861,325.45
High school	96.35	135.31	1,209.31	1.47	240.99	46.85	143,441.20
City park	50.61	45.15	401.74	0.49	80.31	15.61	47,769.91
Strip mall	4,821.80	7,186.98	63,773.49	77.69	12,773.06	2,482.79	7,594,814.37
General office building	1,311.27	1,815.94	16,552.18	19.88	3,253.05	632.79	1,941,979.07
Office park	960.83	1,334.16	12,268.82	14.67	2,396.33	466.25	1,432,425.86
General light industry	81.37	107.68	991.48	1.18	193.48	37.65	115,676.54
TOTALS (lbs/day, unmitigated)	10,214.49	14,479.04	131,018.97	157.63	25,812.33	5,020.57	15,398,749.46

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 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	10,852.67	9.57	dwelling units	32,558.00	311,580.05	3,147,830.93
Apartments low rise	745.38	6.90	dwelling units	11,926.00	82,289.40	831,353.36
High school		12.89	1000 sq ft	1,168.37	15,060.29	139,533.58
City park		1.59	acres	3,220.00	5,119.80	46,500.58
Strip mall		42.94	1000 sq ft	19,195.83	824,268.92	7,396,164.69
General office building		11.01	1000 sq ft	16,806.94	185,044.41	1,883,289.44
Office park		11.42	1000 sq ft	11,403.71	130,230.37	1,387,213.89
General light industry		6.97	1000 sq ft	1,498.30	10,443.15	112,002.80
					1,564,036.39	14,943,889.27

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
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	0.5	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	60.7	39.3	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	Commuter	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)						
High school				10.0	5.0	85.0
City park				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
General office building				35.0	17.5	47.5
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name:

Project Name: Murrieta-2035

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)	2,791.09	1,033.00	599.45	0.01	1.93	1.91	1,289,177.81

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 (lbs/day, unmitigated)	11,284.97	17,435.44	125,295.37	131.12	25,812.33	5,020.57	13,938,740.73

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)	14,076.06	18,468.44	125,894.82	131.13	25,814.26	5,022.48	15,227,918.54

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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	78.00	1,033.00	599.45	0.01	1.93	1.91	1,289,177.81
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	2,282.03						
Architectural Coatings	431.06						
TOTALS (lbs/day, unmitigated)	2,791.09	1,033.00	599.45	0.01	1.93	1.91	1,289,177.81

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL 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>PM25</u>	<u>CO2</u>
Single family housing	2,451.30	3,672.96	27,010.03	27.83	5,438.72	1,058.96	2,953,775.93
Apartments low rise	657.35	970.04	7,133.45	7.35	1,436.39	279.67	780,102.74
High school	105.49	162.89	1,158.95	1.22	240.99	46.85	129,808.85
City park	43.61	54.35	385.62	0.41	80.31	15.61	43,226.83
Strip mall	5,459.06	8,649.98	61,274.27	64.57	12,773.06	2,482.79	6,872,213.66
General office building	1,430.03	2,187.67	15,752.72	16.54	3,253.05	632.79	1,757,982.86
Office park	1,051.49	1,607.78	11,640.08	12.21	2,396.33	466.25	1,296,895.92
General light industry	86.64	129.77	940.25	0.99	193.48	37.65	104,733.94
TOTALS (lbs/day, unmitigated)	11,284.97	17,435.44	125,295.37	131.12	25,812.33	5,020.57	13,938,740.73

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 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	10,852.67	9.57	dwelling units	32,558.00	311,580.05	3,147,830.93
Apartments low rise	745.38	6.90	dwelling units	11,926.00	82,289.40	831,353.36
High school		12.89	1000 sq ft	1,168.37	15,060.29	139,533.58
City park		1.59	acres	3,220.00	5,119.80	46,500.58
Strip mall		42.94	1000 sq ft	19,195.83	824,268.92	7,396,164.69
General office building		11.01	1000 sq ft	16,806.94	185,044.41	1,883,289.44
Office park		11.42	1000 sq ft	11,403.71	130,230.37	1,387,213.89
General light industry		6.97	1000 sq ft	1,498.30	10,443.15	112,002.80
					1,564,036.39	14,943,889.27

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
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	0.5	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	60.7	39.3	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)						
High school				10.0	5.0	85.0
City park				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
General office building				35.0	17.5	47.5
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Murrieta-2035

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)	557.47	191.54	376.62	0.01	1.06	1.05	235,704.43

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)	1,929.27	2,822.27	23,562.79	27.15	4,710.75	916.25	2,721,454.58

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 (tons/year, unmitigated)	2,486.74	3,013.81	23,939.41	27.16	4,711.81	917.30	2,957,159.01

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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	14.23	188.52	109.40	0.00	0.35	0.35	235,274.95
Hearth							
Landscape	48.10	3.02	267.22	0.01	0.71	0.70	429.48
Consumer Products	416.47						
Architectural Coatings	78.67						
TOTALS (tons/year, unmitigated)	557.47	191.54	376.62	0.01	1.06	1.05	235,704.43

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	425.40	594.36	5,090.88	5.76	992.57	193.26	576,481.61
Apartments low rise	115.60	156.97	1,344.52	1.52	262.14	51.04	152,250.85
High school	18.14	26.37	217.64	0.25	43.98	8.55	25,348.72
City park	8.81	8.80	72.34	0.08	14.66	2.85	8,441.64
Strip mall	918.75	1,400.62	11,486.63	13.38	2,331.08	453.11	1,342,095.41
General office building	246.53	354.02	2,972.14	3.43	593.68	115.48	343,218.08
Office park	180.87	260.13	2,200.81	2.53	437.33	85.09	253,172.98
General light industry	15.17	21.00	177.83	0.20	35.31	6.87	20,445.29
TOTALS (tons/year, unmitigated)	1,929.27	2,822.27	23,562.79	27.15	4,710.75	916.25	2,721,454.58

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 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	10,852.67	9.57	dwelling units	32,558.00	311,580.05	3,147,830.93
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High school		12.89	1000 sq ft	1,168.37	15,060.29	139,533.58
City park		1.59	acres	3,220.00	5,119.80	46,500.58
Strip mall		42.94	1000 sq ft	19,195.83	824,268.92	7,396,164.69
General office building		11.01	1000 sq ft	16,806.94	185,044.41	1,883,289.44
Office park		11.42	1000 sq ft	11,403.71	130,230.37	1,387,213.89
General light industry		6.97	1000 sq ft	1,498.30	10,443.15	112,002.80
					1,564,036.39	14,943,889.27

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
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	0.5	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	60.7	39.3	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)						
High school				10.0	5.0	85.0
City park				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
General office building				35.0	17.5	47.5
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Emissions From Electricity Consumed By Land Uses

<i>Land Use</i>	<i>Amount</i>	kilowatt-hours per year ¹	CO 2.00E-04	ROG 1.00E-05	NO_x 1.15E-03	SO_x 1.20E-04	PM₁₀ 4.00E-05	CO₂ 0.772	N₂O 6.59E-06	CH₄ 4.04E-05
Residential (Dwelling Units)	44,484	5626.5	137.14	6.86	788.58	82.29	27.43	529,378.86	4.52	27.68
Food Store (SF)		53.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Restaurant (SF)		47.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hospitals (SF)		21.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retail (SF)	19,195,825	13.55	142.52	7.13	819.50	85.51	28.50	550,136.57	4.70	28.77
College/University (SF)		11.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High School (SF)	1,168,369	10.5	6.72	0.34	38.65	4.03	1.34	25,947.39	0.22	1.36
Elementary School (SF)		5.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Office (SF)	28,210,650	12.95	200.18	10.01	1,151.03	120.11	40.04	772,693.57	6.60	40.41
Hotel/Motel (SF)		9.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warehouse (SF)	1,498,300	4.35	3.57	0.18	20.53	2.14	0.71	13,785.18	0.12	0.72
Miscellaneous (SF)		10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blank			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL - pounds per day	--	--	4.90E-01	2.45E+01	2.82E+03	2.94E+02	9.80E+01	1,891,941.57	16.15	98.93
TOTAL - tons per year	--	--	8.95E-02	4.47E+00	5.14E+02	5.37E+01	1.79E+01	345,279.34	2.95	18.06
TOTAL - metric tons per year	--	--	8.11E-02	4.06E+00	4.67E+02	4.87E+01	1.62E+01	313232.13	2.67	16.38

	CO ₂	N ₂ O	CH ₄
metric tons per year	313,232.13	2.67	16.38
metric tons CO₂eq per year	313,232.13	828.89	343.98

314,404.99

Notes:

1. Usage rate; average for SCE and LADWP.

Source:

South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993, Table A9-11.

Source for greenhouse gas emissions rates:

U.S. Energy Information Administration, *Domestic Electricity Emissions Factors 1999-2002*, October 2007. <http://www.eia.doe.gov/oiarf/1605/techassist.html>

Water Consumption Indirect Emissions

	Acre Feet per year	Electricity Usage kWh/year	Units	CO	ROG	NO _x	SO _x	PM ₁₀	CO ₂	N ₂ O	CH ₄
				2.00E-04	1.00E-05	1.15E-03	1.20E-04	4.00E-05	0.772	6.59E-06	4.04E-05
Project Demand	50207	21,990,666	pounds/yr	4.40E+03	2.20E+02	2.53E+04	2.64E+03	8.80E+02	1.70E+07	1.45E+02	8.88E+02
			tons/yr	2.20E+00	1.10E-01	1.26E+01	1.32E+00	4.40E-01	8.49E+03	7.25E-02	4.44E-01
			mt/yr	1.99E+00	9.97E-02	1.15E+01	1.20E+00	3.99E-01	7.70E+03	6.57E-02	4.03E-01
MTCO₂EQ									7700.54	22.46	9.32

Energy Factor 438 kWh/acre-foot

Based on energy usage factors for water conveyance from the California Energy Commission, Water Energy Use in California, Accessed May 2009.
<http://www.energy.ca.gov/research/iaw/industry/water.html>