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**APPENDIX C**  
**AIR QUALITY**

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:  
Project Name: Sutter County - Existing  
Project Location: Feather River 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)	721.81	133.28	467.38	0.02	1.33	1.32	164,163.25

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)	1,751.86	2,608.94	21,191.66	13.63	2,315.57	461.26	1,390,972.42

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	2,473.67	2,742.22	21,659.04	13.65	2,316.90	462.58	1,555,135.67

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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	9.89	128.67	58.84	0.00	0.25	0.24	163,506.29
Hearth - No Summer Emissions							
Landscape	73.37	4.61	408.54	0.02	1.08	1.08	656.96
Consumer Products	477.88						
Architectural Coatings	160.67						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>721.81</b>	<b>133.28</b>	<b>467.38</b>	<b>0.02</b>	<b>1.33</b>	<b>1.32</b>	<b>164,163.25</b>

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	1,115.84	1,656.73	13,519.89	8.66	1,469.33	292.75	883,610.46
Condo/townhouse general	88.79	131.83	1,075.85	0.69	116.92	23.30	70,313.83
General office building	370.26	593.82	4,759.26	3.10	528.17	105.15	316,292.10
General light industry	176.97	226.56	1,836.66	1.18	201.15	40.06	120,756.03
<b>TOTALS (lbs/day, unmitigated)</b>	<b>1,751.86</b>	<b>2,608.94</b>	<b>21,191.66</b>	<b>13.63</b>	<b>2,315.57</b>	<b>461.26</b>	<b>1,390,972.42</b>

Operational Settings:

Does not include correction for passby trips

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Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 85 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	3,016.00	9.24	dwelling units	9,048.00	83,603.52	844,395.56
Condo/townhouse general	45.00	9.24	dwelling units	720.00	6,652.80	67,193.28
General office building		22.11	1000 sq ft	1,359.52	30,058.99	303,595.79
General light industry		3.49	1000 sq ft	3,279.68	11,446.08	115,605.44
					131,761.39	1,330,790.07

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.5	1.8	97.9	0.3
Light Truck < 3750 lbs	19.3	3.6	86.6	9.8
Light Truck 3751-5750 lbs	19.7	1.5	98.0	0.5
Med Truck 5751-8500 lbs	9.3	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	64.0	36.0
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs	1.5	6.7	20.0	73.3
Heavy-Heavy Truck 33,001-60,000 lbs	1.9	0.0	5.3	94.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.0	65.0	35.0	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.2	8.3	75.0	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	10.1	10.1	10.1	10.1	10.1	10.1
Rural Trip Length (miles)	10.1	10.1	10.1	10.1	10.1	10.1
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)						
General office building				35.0	17.5	47.5
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\Projects - All Employees\D50000+\51363.00 Sutter Co GPU\Phase 7 EIR\Staff Folders\Chris\Sutter County - Reduced.urb924

Project Name: Sutter County - Reduced

Project Location: Feather River 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)	1,680.21	307.30	830.94	0.03	2.38	2.36	379,790.48

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)	1,516.24	1,401.87	15,199.95	40.39	6,810.33	1,286.03	4,169,810.65

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 (lbs/day, unmitigated)	3,196.45	1,709.17	16,030.89	40.42	6,812.71	1,288.39	4,549,601.13

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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	22.91	299.59	147.84	0.00	0.57	0.56	378,692.33
Hearth - No Summer Emissions							
Landscape	122.83	7.71	683.10	0.03	1.81	1.80	1,098.15
Consumer Products	1,134.18						
Architectural Coatings	400.29						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>1,680.21</b>	<b>307.30</b>	<b>830.94</b>	<b>0.03</b>	<b>2.38</b>	<b>2.36</b>	<b>379,790.48</b>

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	501.51	460.40	5,033.45	13.28	2,234.52	422.13	1,370,817.55
Apartments high rise	82.22	75.48	825.19	2.18	366.33	69.20	224,733.08
Condo/townhouse general	182.99	167.99	1,836.59	4.85	815.33	154.03	500,180.26
General office building	523.47	524.99	5,627.44	15.10	2,553.93	482.00	1,559,588.22
General light industry	226.05	173.01	1,877.28	4.98	840.22	158.67	514,491.54
<b>TOTALS (lbs/day, unmitigated)</b>	<b>1,516.24</b>	<b>1,401.87</b>	<b>15,199.95</b>	<b>40.39</b>	<b>6,810.33</b>	<b>1,286.03</b>	<b>4,169,810.65</b>

Operational Settings:

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Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2030 Temperature (F): 85 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	5,054.67	9.24	dwelling units	15,164.00	140,115.36	1,303,072.84
Apartments high rise	40.10	9.24	dwelling units	2,486.00	22,970.64	213,626.95
Condo/townhouse general	345.81	9.24	dwelling units	5,533.00	51,124.92	475,461.75
General office building		22.11	1000 sq ft	7,244.85	160,183.64	1,489,707.88
General light industry		3.49	1000 sq ft	15,097.76	52,691.18	490,028.00
					427,085.74	3,971,897.42

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.9	0.0	100.0	0.0
Light Truck < 3750 lbs	19.1	0.0	99.0	1.0
Light Truck 3751-5750 lbs	19.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	1.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.0	32.5	67.5	0.0
School Bus	0.1	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)	9.3	9.3	9.3	9.3	9.3	9.3
Rural Trip Length (miles)	9.3	9.3	9.3	9.3	9.3	9.3
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)

General office building	35.0	17.5	47.5
General light industry	50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\Projects - All Employees\D50000+\51363.00 Sutter Co GPU\Phase 7 EIR\Staff Folders\Chris\Sutter County - Buildout.urb924

Project Name: Sutter County - Buildout

Project Location: Feather River 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)	2,563.91	418.91	940.69	0.03	2.72	2.69	519,148.27

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)	2,937.20	2,622.47	28,421.40	75.56	12,740.14	2,405.73	7,799,533.68

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)	5,501.11	3,041.38	29,362.09	75.59	12,742.86	2,408.42	8,318,681.95

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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	31.34	410.65	208.66	0.00	0.78	0.77	517,971.57
Hearth - No Summer Emissions							
Landscape	131.68	8.26	732.03	0.03	1.94	1.92	1,176.70
Consumer Products	1,606.88						
Architectural Coatings	794.01						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>2,563.91</b>	<b>418.91</b>	<b>940.69</b>	<b>0.03</b>	<b>2.72</b>	<b>2.69</b>	<b>519,148.27</b>

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	537.76	493.68	5,397.24	14.24	2,396.03	452.64	1,469,895.37
Apartments high rise	148.00	135.87	1,485.40	3.92	659.42	124.57	404,537.63
Condo/townhouse general	400.51	367.68	4,019.72	10.61	1,784.50	337.11	1,094,737.57
General office building	878.22	880.77	9,441.05	25.34	4,284.68	808.65	2,616,492.06
General light industry	972.71	744.47	8,077.99	21.45	3,615.51	682.76	2,213,871.05
<b>TOTALS (lbs/day, unmitigated)</b>	<b>2,937.20</b>	<b>2,622.47</b>	<b>28,421.40</b>	<b>75.56</b>	<b>12,740.14</b>	<b>2,405.73</b>	<b>7,799,533.68</b>

Operational Settings:

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Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2030 Temperature (F): 85 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	5,420.00	9.24	dwelling units	16,260.00	150,242.40	1,397,254.31
Apartments high rise	72.18	9.24	dwelling units	4,475.00	41,349.00	384,545.70
Condo/townhouse general	756.88	9.24	dwelling units	12,110.00	111,896.40	1,040,636.52
General office building		22.11	1000 sq ft	12,154.55	268,737.10	2,499,255.11
General light industry		3.49	1000 sq ft	64,966.07	226,731.59	2,108,603.79
					798,956.49	7,430,295.43

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.9	0.0	100.0	0.0
Light Truck < 3750 lbs	19.1	0.0	99.0	1.0
Light Truck 3751-5750 lbs	19.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	1.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.0	32.5	67.5	0.0
School Bus	0.1	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	Commuter	Non-Work	Customer
Urban Trip Length (miles)	9.3	9.3	9.3	9.3	9.3	9.3
Rural Trip Length (miles)	9.3	9.3	9.3	9.3	9.3	9.3
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)						
General office building				35.0	17.5	47.5
General light industry				50.0	25.0	25.0