
APPENDIX A - UPDATED GREENHOUSE GAS EMISSION MODELING

**Rincon del Rio - Not Including Water Heater Mitigation
Nevada County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Congregate Care (Assisted Living)	345	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)		Utility Company	Pacific Gas & Electric Company
Climate Zone	1		2.2		
		Precipitation Freq (Days)			

1.3 User Entered Comments

Project Characteristics -
 Vehicle Trips - Traffic Trips per KD Anderson Traffic Study.
 Area Mitigation -
 Energy Mitigation -
 Water Mitigation -
 Waste Mitigation -
 Mobile Land Use Mitigation -

2.0 Emissions Summary

2.1 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.00	717.64	717.64	0.02	0.05	733.89
Energy											0.00	564.66	564.66	0.02	0.01	568.16
Mobile											0.00	1,827.93	1,827.93	0.08	0.00	1,829.60
Waste											63.90	0.00	63.90	3.78	0.00	143.21
Water											0.00	50.06	50.06	0.69	0.02	70.06
Total											63.90	3,160.29	3,224.19	4.59	0.08	3,344.92

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.00	617.34	617.34	0.01	0.01	621.13
Energy											0.00	204.12	204.12	0.01	0.00	205.37
Mobile											0.00	1,801.69	1,801.69	0.08	0.00	1,803.34
Waste											44.73	0.00	44.73	2.64	0.00	100.25
Water											0.00	40.06	40.06	0.55	0.01	56.06
Total											44.73	2,663.21	2,707.94	3.29	0.02	2,786.15

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

Improve Pedestrian Network

Implement NEV Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.00	1,801.69	1,801.69	0.08	0.00	1,803.34
Unmitigated											0.00	1,827.93	1,827.93	0.08	0.00	1,829.60
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	969.45	969.45	969.45	3,605,112	3,551,216
Total	969.45	969.45	969.45	3,605,112	3,551,216

4.3 Trip Type Information

Land Use	Miles			Trip %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Congregate Care (Assisted Living)	16.80	7.10	7.90	42.30	19.60	38.10

5.0 Energy Detail

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.00	69.27	69.27	0.00	0.00	69.70
Electricity Unmitigated											0.00	364.10	364.10	0.02	0.01	366.38
NaturalGas Mitigated											0.00	134.85	134.85	0.00	0.00	135.67
NaturalGas Unmitigated											0.00	200.56	200.56	0.00	0.00	201.78
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Congregate Care (Assisted Living)	3.75829e+006											0.00	200.56	200.56	0.00	0.00	201.78
Total												0.00	200.56	200.56	0.00	0.00	201.78

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Congregate Care (Assisted Living)	2.52697e+006											0.00	134.85	134.85	0.00	0.00	135.67
Total												0.00	134.85	134.85	0.00	0.00	135.67

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Congregate Care (Assisted Living)	1.25159e+006					364.10	0.02	0.01	366.38
Total						364.10	0.02	0.01	366.38

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Congregate Care (Assisted Living)	238105					69.27	0.00	0.00	69.70
Total						69.27	0.00	0.00	69.70

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Electric Lawnmower
- Use Electric Leafblower
- Use Electric Chainsaw
- Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.00	617.34	617.34	0.01	0.01	621.13
Unmitigated											0.00	717.64	717.64	0.02	0.05	733.89
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products											0.00	0.00	0.00	0.00	0.00	0.00
Hearth											0.00	713.40	713.40	0.01	0.05	729.57
Landscaping											0.00	4.23	4.23	0.00	0.00	4.32
Total											0.00	717.63	717.63	0.01	0.05	733.89

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products											0.00	0.00	0.00	0.00	0.00	0.00
Hearth											0.00	614.37	614.37	0.01	0.01	618.11
Landscaping											0.00	2.98	2.98	0.00	0.00	3.02
Total											0.00	617.35	617.35	0.01	0.01	621.13

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Turf Reduction
- Use Water Efficient Irrigation System

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					40.06	0.55	0.01	56.06
Unmitigated					50.06	0.69	0.02	70.06
Total	NA							

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Congregate Care (Assisted Living)	22.4781 / 14.171					50.06	0.69	0.02	70.06
Total						50.06	0.69	0.02	70.06

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Congregate Care (Assisted Living)	17.9825 / 11.3469					40.06	0.55	0.01	56.06
Total						40.06	0.55	0.01	56.06

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					44.73	2.64	0.00	100.25
Unmitigated					63.90	3.78	0.00	143.21
Total	NA							

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Congregate Care (Assisted Living)	314.81					63.90	3.78	0.00	143.21
Total						63.90	3.78	0.00	143.21

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Congregate Care (Assisted Living)	220.367					44.73	2.64	0.00	100.25
Total						44.73	2.64	0.00	100.25

