Infrastructure Construction and Operational Emissions

Solvang 2011 Water System Master Plan Update - Infrastructure

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Light Industry	1	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - A generic industrial land use type was used to model the project emissions.

Construction Phase - Assumed 5 years total time for active construction work for infrastructure replacement.

Off-road Equipment - 1 Concrete/Industrial Saw, 1 Rubber-Tired Dozer, 2 Tractor/Loader/Backhoe, 1 Trencher, 2 Generator, 1 Welder, 1 Off-Highway (Concrete) Truck. (CalEEMod default hours/day or assumed 8 hour/day, horsepower, and load factor ratings.)

Grading - Assumed 10,000 cubic yards of material imported and exported and 5 acres/day disturbed.

Trips and VMT - CalEEMod default worker trips (23 per day). Assumed the number of vendor trips is equal to the number of worker trips.

Vehicle Trips - Estimated 12 vehicle trips per day for maintenance.

Consumer Products - No consumer product emissions.

Area Coating - No architectural coating emissions.

Energy Use - No energy emissions for infrastructure.

Landscape Equipment - No landscaping equipment emissions.

Water And Wastewater - No water or wastewater emissions for infrastructure.

Solid Waste - No solid waste emissions for infrastructure.

Construction Off-road Equipment Mitigation - Water exposed area (55% dust mitigation); Reduce vehicle speed to 15 mph on unpaved roads.

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2012	1.11	7.26	4.67	0.01	7.22	0.47	7.69	0.27	0.47	0.74	0.00	752.92	752.92	0.09	0.00	754.76
2013	1.03	6.77	4.51	0.01	7.22	0.43	7.65	0.27	0.43	0.70	0.00	752.94	752.94	0.08	0.00	754.66
2014	0.95	6.27	4.37	0.01	7.22	0.39	7.61	0.27	0.39	0.66	0.00	752.93	752.93	0.08	0.00	754.52
2015	0.88	5.76	4.24	0.01	7.22	0.35	7.57	0.27	0.35	0.62	0.00	752.93	752.93	0.07	0.00	754.40
2016	0.81	5.28	4.14	0.01	7.22	0.32	7.54	0.27	0.32	0.59	0.00	752.74	752.74	0.06	0.00	754.08
Total	**4.78**	**31.34**	**21.93**	**0.05**	**36.10**	**1.96**	**38.06**	**1.35**	**1.96**	**3.31**	**0.00**	**3,764.46**	**3,764.46**	**0.38**	**0.00**	**3,772.42**

2.1 Overall Construction

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2012	1.11	7.26	4.67	0.01	6.95	0.47	7.42	0.12	0.47	0.59	0.00	752.92	752.92	0.09	0.00	754.76
2013	1.03	6.77	4.51	0.01	6.95	0.43	7.38	0.12	0.43	0.55	0.00	752.94	752.94	0.08	0.00	754.66
2014	0.95	6.27	4.37	0.01	6.95	0.39	7.34	0.12	0.39	0.51	0.00	752.93	752.93	0.08	0.00	754.52
2015	0.88	5.76	4.24	0.01	6.95	0.35	7.30	0.12	0.35	0.48	0.00	752.93	752.93	0.07	0.00	754.40
2016	0.81	5.28	4.14	0.01	6.95	0.32	7.26	0.12	0.32	0.44	0.00	752.74	752.74	0.06	0.00	754.08
Total	**4.78**	**31.34**	**21.93**	**0.05**	**34.75**	**1.96**	**36.70**	**0.60**	**1.96**	**2.57**	**0.00**	**3,764.46**	**3,764.46**	**0.38**	**0.00**	**3,772.42**

2.2 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					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.01	0.03	0.15	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	11.70	11.70	0.00	0.00	11.72
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.03**	**0.15**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**11.70**	**11.70**	**0.00**	**0.00**	**11.72**

2.2 Overall Operational

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					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.01	0.03	0.15	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	11.70	11.70	0.00	0.00	11.72
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.03**	**0.15**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**11.70**	**11.70**	**0.00**	**0.00**	**11.72**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Infrastructure Replacement - 2012

Unmitigated Construction On-Site

	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					
Fugitive Dust					0.50	0.00	0.50	0.27	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.02	6.77	3.77	0.01		0.45	0.45		0.45	0.45	0.00	665.31	665.31	0.08	0.00	667.04
Total	**1.02**	**6.77**	**3.77**	**0.01**	**0.50**	**0.45**	**0.95**	**0.27**	**0.45**	**0.72**	**0.00**	**665.31**	**665.31**	**0.08**	**0.00**	**667.04**

Unmitigated Construction Off-Site

	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					
Hauling	0.02	0.14	0.14	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.34	17.34	0.00	0.00	17.35
Vendor	0.05	0.32	0.45	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	44.09	44.09	0.00	0.00	44.14
Worker	0.03	0.04	0.31	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	26.18	26.18	0.00	0.00	26.23
Total	**0.10**	**0.50**	**0.90**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.61**	**87.81**	**0.00**	**0.00**	**87.72**

3.2 Infrastructure Replacement - 2012

Mitigated Construction On-Site

	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					
Fugitive Dust					0.22	0.00	0.22	0.12	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.02	6.77	3.77	0.01		0.45	0.45		0.45	0.45	0.00	665.31	665.31	0.08	0.00	667.04
Total	**1.02**	**6.77**	**3.77**	**0.01**	**0.22**	**0.45**	**0.67**	**0.12**	**0.45**	**0.57**	**0.00**	**665.31**	**665.31**	**0.08**	**0.00**	**667.04**

Mitigated Construction Off-Site

	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					
Hauling	0.02	0.14	0.14	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.34	17.34	0.00	0.00	17.35
Vendor	0.05	0.32	0.45	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	44.09	44.09	0.00	0.00	44.14
Worker	0.03	0.04	0.31	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	26.18	26.18	0.00	0.00	26.23
Total	**0.10**	**0.50**	**0.90**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.61**	**87.81**	**0.00**	**0.00**	**87.72**

3.2 Infrastructure Replacement - 2013

Unmitigated Construction On-Site

	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					
Fugitive Dust					0.50	0.00	0.50	0.27	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.95	6.32	3.69	0.01		0.42	0.42		0.42	0.42	0.00	665.31	665.31	0.08	0.00	666.92
Total	**0.95**	**6.32**	**3.69**	**0.01**	**0.50**	**0.42**	**0.92**	**0.27**	**0.42**	**0.69**	**0.00**	**665.31**	**665.31**	**0.08**	**0.00**	**666.92**

Unmitigated Construction Off-Site

	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					
Hauling	0.02	0.12	0.12	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.53	17.53	0.00	0.00	17.54
Vendor	0.04	0.29	0.41	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	44.46	44.46	0.00	0.00	44.50
Worker	0.03	0.03	0.28	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	25.64	25.64	0.00	0.00	25.69
Total	**0.09**	**0.44**	**0.81**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.63**	**87.83**	**0.00**	**0.00**	**87.73**

3.2 Infrastructure Replacement - 2013

Mitigated Construction On-Site

	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					
Fugitive Dust					0.22	0.00	0.22	0.12	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.95	6.32	3.69	0.01		0.42	0.42		0.42	0.42	0.00	665.31	665.31	0.08	0.00	666.92
Total	**0.95**	**6.32**	**3.69**	**0.01**	**0.22**	**0.42**	**0.64**	**0.12**	**0.42**	**0.54**	**0.00**	**665.31**	**665.31**	**0.08**	**0.00**	**666.92**

Mitigated Construction Off-Site

	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					
Hauling	0.02	0.12	0.12	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.53	17.53	0.00	0.00	17.54
Vendor	0.04	0.29	0.41	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	44.46	44.46	0.00	0.00	44.50
Worker	0.03	0.03	0.28	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	25.64	25.64	0.00	0.00	25.69
Total	**0.09**	**0.44**	**0.81**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.63**	**87.83**	**0.00**	**0.00**	**87.73**

3.2 Infrastructure Replacement - 2014

Unmitigated Construction On-Site

	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					
Fugitive Dust					0.50	0.00	0.50	0.27	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.88	5.86	3.63	0.01		0.38	0.38		0.38	0.38	0.00	665.31	665.31	0.07	0.00	666.80
Total	**0.88**	**5.86**	**3.63**	**0.01**	**0.50**	**0.38**	**0.88**	**0.27**	**0.38**	**0.65**	**0.00**	**665.31**	**665.31**	**0.07**	**0.00**	**666.80**

Unmitigated Construction Off-Site

	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					
Hauling	0.01	0.11	0.11	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.70	17.70	0.00	0.00	17.72
Vendor	0.04	0.27	0.37	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	44.80	44.80	0.00	0.00	44.84
Worker	0.02	0.03	0.26	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	25.12	25.12	0.00	0.00	25.16
Total	**0.07**	**0.41**	**0.74**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.62**	**87.62**	**0.00**	**0.00**	**87.72**

3.2 Infrastructure Replacement - 2014

Mitigated Construction On-Site

	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					
Fugitive Dust					0.22	0.00	0.22	0.12	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.88	5.86	3.63	0.01		0.38	0.38		0.38	0.38	0.00	665.31	665.31	0.07	0.00	666.80
Total	**0.88**	**5.86**	**3.63**	**0.01**	**0.22**	**0.38**	**0.60**	**0.12**	**0.38**	**0.50**	**0.00**	**665.31**	**665.31**	**0.07**	**0.00**	**666.80**

Mitigated Construction Off-Site

	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					
Hauling	0.01	0.11	0.11	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.70	17.70	0.00	0.00	17.72
Vendor	0.04	0.27	0.37	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	44.80	44.80	0.00	0.00	44.84
Worker	0.02	0.03	0.26	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	25.12	25.12	0.00	0.00	25.16
Total	**0.07**	**0.41**	**0.74**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.62**	**87.62**	**0.00**	**0.00**	**87.72**

3.2 Infrastructure Replacement - 2015

Unmitigated Construction On-Site

	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					
Fugitive Dust					0.50	0.00	0.50	0.27	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.81	5.39	3.57	0.01		0.34	0.34		0.34	0.34	0.00	665.31	665.31	0.07	0.00	666.69
Total	**0.81**	**5.39**	**3.57**	**0.01**	**0.50**	**0.34**	**0.84**	**0.27**	**0.34**	**0.61**	**0.00**	**665.31**	**665.31**	**0.07**	**0.00**	**666.69**

Unmitigated Construction Off-Site

	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					
Hauling	0.01	0.10	0.10	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.85	17.85	0.00	0.00	17.86
Vendor	0.04	0.25	0.34	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	45.09	45.09	0.00	0.00	45.13
Worker	0.02	0.03	0.24	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	24.68	24.68	0.00	0.00	24.72
Total	**0.07**	**0.38**	**0.68**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.62**	**87.62**	**0.00**	**0.00**	**87.71**

3.2 Infrastructure Replacement - 2015

Mitigated Construction On-Site

	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					
Fugitive Dust					0.22	0.00	0.22	0.12	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.81	5.39	3.57	0.01		0.34	0.34		0.34	0.34	0.00	665.31	665.31	0.07	0.00	666.69
Total	**0.81**	**5.39**	**3.57**	**0.01**	**0.22**	**0.34**	**0.56**	**0.12**	**0.34**	**0.46**	**0.00**	**665.31**	**665.31**	**0.07**	**0.00**	**666.69**

Mitigated Construction Off-Site

	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					
Hauling	0.01	0.10	0.10	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.85	17.85	0.00	0.00	17.86
Vendor	0.04	0.25	0.34	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	45.09	45.09	0.00	0.00	45.13
Worker	0.02	0.03	0.24	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	24.68	24.68	0.00	0.00	24.72
Total	**0.07**	**0.38**	**0.68**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.62**	**87.62**	**0.00**	**0.00**	**87.71**

3.2 Infrastructure Replacement - 2016

Unmitigated Construction On-Site

	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					
Fugitive Dust					0.50	0.00	0.50	0.27	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.75	4.94	3.51	0.01		0.31	0.31		0.31	0.31	0.00	665.31	665.31	0.06	0.00	666.58
Total	**0.75**	**4.94**	**3.51**	**0.01**	**0.50**	**0.31**	**0.81**	**0.27**	**0.31**	**0.58**	**0.00**	**665.31**	**665.31**	**0.06**	**0.00**	**666.58**

Unmitigated Construction Off-Site

	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					
Hauling	0.01	0.09	0.09	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.98	17.98	0.00	0.00	17.99
Vendor	0.03	0.23	0.32	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	45.36	45.36	0.00	0.00	45.39
Worker	0.02	0.02	0.21	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	24.09	24.09	0.00	0.00	24.13
Total	**0.06**	**0.34**	**0.62**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.43**	**87.43**	**0.00**	**0.00**	**87.51**

3.2 Infrastructure Replacement - 2016

Mitigated Construction On-Site

	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					
Fugitive Dust					0.22	0.00	0.22	0.12	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.75	4.94	3.51	0.01		0.31	0.31		0.31	0.31	0.00	665.31	665.31	0.06	0.00	666.58
Total	**0.75**	**4.94**	**3.51**	**0.01**	**0.22**	**0.31**	**0.53**	**0.12**	**0.31**	**0.43**	**0.00**	**665.31**	**665.31**	**0.06**	**0.00**	**666.58**

Mitigated Construction Off-Site

	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					
Hauling	0.01	0.09	0.09	0.00	6.67	0.00	6.67	0.00	0.00	0.00	0.00	17.98	17.98	0.00	0.00	17.99
Vendor	0.03	0.23	0.32	0.00	0.02	0.01	0.02	0.00	0.01	0.01	0.00	45.36	45.36	0.00	0.00	45.39
Worker	0.02	0.02	0.21	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	24.09	24.09	0.00	0.00	24.13
Total	**0.06**	**0.34**	**0.62**	**0.00**	**6.73**	**0.01**	**6.73**	**0.00**	**0.01**	**0.01**	**0.00**	**87.43**	**87.43**	**0.00**	**0.00**	**87.51**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	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	0.01	0.03	0.15	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	11.70	11.70	0.00	0.00	11.72
Unmitigated	0.01	0.03	0.15	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	11.70	11.70	0.00	0.00	11.72
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	12.00	12.00	12.00	28,843	28,843
Total	12.00	12.00	12.00	28,843	28,843

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
General Light Industry	8.80	4.60	4.60	59.00	28.00	13.00

5.0 Energy Detail

5.1 Mitigation Measures 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	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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					
General Light Industry	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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					
General Light Industry	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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			
General Light Industry	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Light Industry	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**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			
General Light Industry	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Light Industry	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**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			
General Light Industry	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Light Industry	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

Solvang 2011 Water System Master Plan Update - Infrastructure

Santa Barbara County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Light Industry	1	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - A generic industrial land use type was used to model the project emissions.

Construction Phase - Assumed 5 years total time for active construction work for infrastructure replacement.

Off-road Equipment - 1 Concrete/Industrial Saw, 1 Rubber-Tired Dozer, 2 Tractor/Loader/Backhoe, 1 Trencher, 2 Generator, 1 Welder, 1 Off-Highway (Concrete) Truck. (CalEEMod default hours/day or assumed 8 hour/day, horsepower, and load factor ratings.)

Grading - Assumed 10,000 cubic yards of material imported and exported and 5 acres/day disturbed.

Trips and VMT - CalEEMod default worker trips (23 per day). Assumed the number of vendor trips is equal to the number of worker trips.

Vehicle Trips - Estimated 12 vehicle trips per day for maintenance.

Consumer Products - No consumer product emissions.

Area Coating - No architectural coating emissions.

Energy Use - No energy emissions for infrastructure.

Landscape Equipment - No landscaping equipment emissions.

Water And Wastewater - No water or wastewater emissions for infrastructure.

Solid Waste - No solid waste emissions for infrastructure.

Construction Off-road Equipment Mitigation - Water exposed area (55% dust mitigation); Reduce vehicle speed to 15 mph on unpaved roads.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	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
Year	lb/day										lb/day					
2012	8.44	55.73	35.26	0.06	59.41	3.60	63.01	0.42	3.59	4.01	0.00	6,370.30	0.00	0.74	0.00	6,385.86
2013	7.85	51.96	34.03	0.06	59.41	3.30	62.71	0.42	3.29	3.72	0.00	6,370.50	0.00	0.69	0.00	6,384.94
2014	7.28	48.13	32.98	0.06	59.41	3.00	62.41	0.42	2.99	3.42	0.00	6,370.35	0.00	0.64	0.00	6,383.74
2015	6.73	44.19	32.05	0.06	59.41	2.71	62.12	0.42	2.71	3.13	0.00	6,370.36	0.00	0.59	0.00	6,382.71
2016	6.20	40.53	31.25	0.06	59.41	2.43	61.84	0.42	2.43	2.85	0.00	6,368.65	0.00	0.54	0.00	6,379.99
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	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
Year	lb/day										lb/day					
2012	8.44	55.73	35.26	0.06	58.99	3.60	62.59	0.20	3.59	3.79	0.00	6,370.30	0.00	0.74	0.00	6,385.86
2013	7.85	51.96	34.03	0.06	58.99	3.30	62.29	0.20	3.29	3.49	0.00	6,370.50	0.00	0.69	0.00	6,384.94
2014	7.28	48.13	32.98	0.06	58.99	3.00	61.99	0.20	2.99	3.19	0.00	6,370.35	0.00	0.64	0.00	6,383.74
2015	6.73	44.19	32.05	0.06	58.99	2.71	61.70	0.20	2.71	2.90	0.00	6,370.36	0.00	0.59	0.00	6,382.71
2016	6.20	40.53	31.25	0.06	58.99	2.43	61.43	0.20	2.43	2.62	0.00	6,368.65	0.00	0.54	0.00	6,379.99
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 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	lb/day										lb/day					
Area	0.02	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.08	0.14	0.78	0.00	0.10	0.00	0.10	0.00	0.00	0.00		72.84		0.01		72.96
Total	**0.10**	**0.14**	**0.78**	**0.00**	**0.10**	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**		**72.84**		**0.01**	**0.00**	**72.96**

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	lb/day										lb/day					
Area	0.02	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.08	0.14	0.78	0.00	0.10	0.00	0.10	0.00	0.00	0.00		72.84		0.01		72.96
Total	**0.10**	**0.14**	**0.78**	**0.00**	**0.10**	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**		**72.84**		**0.01**	**0.00**	**72.96**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Infrastructure Replacement - 2012

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	7.79	51.89	28.92	0.06		3.49	3.49		3.49	3.49		5,621.27		0.70		5,635.92
Total	**7.79**	**51.89**	**28.92**	**0.06**	**0.76**	**3.49**	**4.25**	**0.41**	**3.49**	**3.90**		**5,621.27**		**0.70**		**5,635.92**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.12	1.08	0.99	0.00	58.17	0.03	58.21	0.00	0.03	0.03		146.63		0.01		146.77
Vendor	0.32	2.49	2.99	0.00	0.13	0.07	0.20	0.00	0.07	0.07		373.63		0.02		373.98
Worker	0.21	0.27	2.36	0.00	0.34	0.01	0.35	0.00	0.01	0.01		228.77		0.02		229.19
Total	**0.65**	**3.84**	**6.34**	**0.00**	**58.64**	**0.11**	**58.76**	**0.00**	**0.11**	**0.11**		**749.03**		**0.05**		**749.94**

3.2 Infrastructure Replacement - 2012

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	7.79	51.89	28.92	0.06		3.49	3.49		3.49	3.49	0.00	5,621.27		0.70		5,635.92
Total	**7.79**	**51.89**	**28.92**	**0.06**	**0.34**	**3.49**	**3.83**	**0.19**	**3.49**	**3.68**	**0.00**	**5,621.27**		**0.70**		**5,635.92**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.12	1.08	0.99	0.00	58.17	0.03	58.21	0.00	0.03	0.03		146.63		0.01		146.77
Vendor	0.32	2.49	2.99	0.00	0.13	0.07	0.20	0.00	0.07	0.07		373.63		0.02		373.98
Worker	0.21	0.27	2.36	0.00	0.34	0.01	0.35	0.00	0.01	0.01		226.77		0.02		229.19
Total	**0.65**	**3.84**	**6.34**	**0.00**	**58.64**	**0.11**	**58.76**	**0.00**	**0.11**	**0.11**		**749.03**		**0.05**		**749.94**

3.2 Infrastructure Replacement - 2013

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	7.25	48.47	28.32	0.06		3.20	3.20		3.20	3.20		5,621.27		0.65		5,634.89
Total	**7.25**	**48.47**	**28.32**	**0.06**	**0.76**	**3.20**	**3.96**	**0.41**	**3.20**	**3.61**		**5,621.27**		**0.65**		**5,634.89**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.11	0.97	0.88	0.00	58.17	0.03	58.20	0.00	0.03	0.03		148.28		0.01		148.40
Vendor	0.30	2.28	2.70	0.00	0.13	0.06	0.20	0.00	0.06	0.06		376.82		0.02		377.14
Worker	0.19	0.25	2.15	0.00	0.34	0.01	0.35	0.00	0.01	0.01		224.13		0.02		224.51
Total	**0.60**	**3.50**	**5.73**	**0.00**	**58.64**	**0.10**	**58.75**	**0.00**	**0.10**	**0.10**		**749.23**		**0.05**		**750.05**

3.2 Infrastructure Replacement - 2013

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	7.25	48.47	28.32	0.06		3.20	3.20		3.20	3.20	0.00	5,621.27		0.65		5,634.89
Total	**7.25**	**48.47**	**28.32**	**0.06**	**0.34**	**3.20**	**3.54**	**0.19**	**3.20**	**3.39**	**0.00**	**5,621.27**		**0.65**		**5,634.89**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.11	0.97	0.88	0.00	58.17	0.03	58.20	0.00	0.03	0.03		148.28		0.01		148.40
Vendor	0.30	2.28	2.70	0.00	0.13	0.06	0.20	0.00	0.06	0.06		376.82		0.02		377.14
Worker	0.19	0.25	2.15	0.00	0.34	0.01	0.35	0.00	0.01	0.01		224.13		0.02		224.51
Total	**0.60**	**3.50**	**5.73**	**0.00**	**58.64**	**0.10**	**58.75**	**0.00**	**0.10**	**0.10**		**749.23**		**0.05**		**750.05**

3.2 Infrastructure Replacement - 2014

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	6.73	44.95	27.79	0.06		2.91	2.91		2.91	2.91		5,621.27		0.60		5,633.90
Total	**6.73**	**44.95**	**27.79**	**0.06**	**0.76**	**2.91**	**3.67**	**0.41**	**2.91**	**3.32**		**5,621.27**		**0.60**		**5,633.90**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.10	0.87	0.78	0.00	58.17	0.03	58.20	0.00	0.02	0.03		149.77		0.01		149.88
Vendor	0.27	2.10	2.46	0.00	0.13	0.06	0.19	0.00	0.05	0.06		379.77		0.01		380.06
Worker	0.17	0.22	1.95	0.00	0.34	0.01	0.35	0.00	0.01	0.01		219.55		0.02		219.90
Total	**0.54**	**3.19**	**5.19**	**0.00**	**58.64**	**0.10**	**58.74**	**0.00**	**0.08**	**0.10**		**749.09**		**0.04**		**749.84**

3.2 Infrastructure Replacement - 2014

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	6.73	44.95	27.79	0.06		2.91	2.91		2.91	2.91	0.00	5,621.27		0.60		5,633.90
Total	**6.73**	**44.95**	**27.79**	**0.06**	**0.34**	**2.91**	**3.25**	**0.19**	**2.91**	**3.10**	**0.00**	**5,621.27**		**0.60**		**5,633.90**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.10	0.87	0.78	0.00	58.17	0.03	58.20	0.00	0.02	0.03		149.77		0.01		149.88
Vendor	0.27	2.10	2.46	0.00	0.13	0.06	0.19	0.00	0.05	0.06		379.77		0.01		380.06
Worker	0.17	0.22	1.95	0.00	0.34	0.01	0.35	0.00	0.01	0.01		219.55		0.02		219.90
Total	**0.54**	**3.19**	**5.19**	**0.00**	**58.64**	**0.10**	**58.74**	**0.00**	**0.08**	**0.10**		**749.09**		**0.04**		**749.84**

3.2 Infrastructure Replacement - 2015

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	6.22	41.28	27.33	0.06		2.63	2.63		2.63	2.63		5,621.27		0.55		5,632.92
Total	**6.22**	**41.28**	**27.33**	**0.06**	**0.76**	**2.63**	**3.39**	**0.41**	**2.63**	**3.04**		**5,621.27**		**0.55**		**5,632.92**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.09	0.78	0.70	0.00	58.17	0.02	58.20	0.00	0.02	0.02		151.01		0.00		151.11
Vendor	0.25	1.93	2.24	0.00	0.13	0.05	0.19	0.00	0.05	0.05		382.32		0.01		382.59
Worker	0.16	0.20	1.79	0.00	0.34	0.01	0.35	0.00	0.01	0.01		215.76		0.02		216.08
Total	**0.50**	**2.91**	**4.73**	**0.00**	**58.64**	**0.08**	**58.74**	**0.00**	**0.08**	**0.08**		**749.09**		**0.03**		**749.78**

3.2 Infrastructure Replacement - 2015

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	6.22	41.28	27.33	0.06		2.63	2.63		2.63	2.63	0.00	5,621.27		0.55		5,632.92
Total	**6.22**	**41.28**	**27.33**	**0.06**	**0.34**	**2.63**	**2.97**	**0.19**	**2.63**	**2.82**	**0.00**	**5,621.27**		**0.55**		**5,632.92**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.09	0.78	0.70	0.00	58.17	0.02	58.20	0.00	0.02	0.02		151.01		0.00		151.11
Vendor	0.25	1.93	2.24	0.00	0.13	0.05	0.19	0.00	0.05	0.05		382.32		0.01		382.59
Worker	0.16	0.20	1.79	0.00	0.34	0.01	0.35	0.00	0.01	0.01		215.76		0.02		216.08
Total	**0.50**	**2.91**	**4.73**	**0.00**	**58.64**	**0.08**	**58.74**	**0.00**	**0.08**	**0.08**		**749.09**		**0.03**		**749.78**

3.2 Infrastructure Replacement - 2016

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	5.73	37.85	26.92	0.06		2.36	2.36		2.36	2.36		5,621.27		0.51		5,631.98
Total	**5.73**	**37.85**	**26.92**	**0.06**	**0.76**	**2.36**	**3.12**	**0.41**	**2.36**	**2.77**		**5,621.27**		**0.51**		**5,631.98**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.08	0.71	0.63	0.00	58.17	0.02	58.20	0.00	0.02	0.02		152.11		0.00		152.20
Vendor	0.23	1.79	2.07	0.00	0.13	0.05	0.18	0.00	0.05	0.05		384.66		0.01		384.91
Worker	0.15	0.18	1.63	0.00	0.34	0.01	0.35	0.00	0.01	0.01		210.61		0.01		210.90
Total	**0.46**	**2.68**	**4.33**	**0.00**	**58.64**	**0.08**	**58.73**	**0.00**	**0.08**	**0.08**		**747.38**		**0.02**		**748.01**

3.2 Infrastructure Replacement - 2016

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	5.73	37.85	26.92	0.06		2.36	2.36		2.36	2.36	0.00	5,621.27		0.51		5,631.98
Total	**5.73**	**37.85**	**26.92**	**0.06**	**0.34**	**2.36**	**2.70**	**0.19**	**2.36**	**2.55**	**0.00**	**5,621.27**		**0.51**		**5,631.98**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.08	0.71	0.63	0.00	58.17	0.02	58.20	0.00	0.02	0.02		152.11		0.00		152.20
Vendor	0.23	1.79	2.07	0.00	0.13	0.05	0.18	0.00	0.05	0.05		384.66		0.01		384.91
Worker	0.15	0.18	1.63	0.00	0.34	0.01	0.35	0.00	0.01	0.01		210.61		0.01		210.90
Total	**0.46**	**2.68**	**4.33**	**0.00**	**58.64**	**0.08**	**58.73**	**0.00**	**0.08**	**0.08**		**747.38**		**0.02**		**748.01**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	0.08	0.14	0.78	0.00	0.10	0.00	0.10	0.00	0.00	0.00		72.84		0.01		72.96
Unmitigated	0.08	0.14	0.78	0.00	0.10	0.00	0.10	0.00	0.00	0.00		72.84		0.01		72.96
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	12.00	12.00	12.00	28,843	28,843
Total	12.00	12.00	12.00	28,843	28,843

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
General Light Industry	8.80	4.60	4.60	59.00	28.00	13.00

5.0 Energy Detail

5.1 Mitigation Measures 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	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
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	lb/day										lb/day					
General Light Industry	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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	lb/day										lb/day					
General Light Industry	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	lb/day										lb/day					
Mitigated	0.02	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.02	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
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	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.02					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.02**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

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	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.02					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.02**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Solvang 2011 Water System Master Plan Update - Infrastructure

Santa Barbara County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Light Industry	1	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - A generic industrial land use type was used to model the project emissions.

Construction Phase - Assumed 5 years total time for active construction work for infrastructure replacement.

Off-road Equipment - 1 Concrete/Industrial Saw, 1 Rubber-Tired Dozer, 2 Tractor/Loader/Backhoe, 1 Trencher, 2 Generator, 1 Welder, 1 Off-Highway (Concrete) Truck. (CalEEMod default hours/day or assumed 8 hour/day, horsepower, and load factor ratings.)

Grading - Assumed 10,000 cubic yards of material imported and exported and 5 acres/day disturbed.

Trips and VMT - CalEEMod default worker trips (23 per day). Assumed the number of vendor trips is equal to the number of worker trips.

Vehicle Trips - Estimated 12 vehicle trips per day for maintenance.

Consumer Products - No consumer product emissions.

Area Coating - No architectural coating emissions.

Energy Use - No energy emissions for infrastructure.

Landscape Equipment - No landscaping equipment emissions.

Water And Wastewater - No water or wastewater emissions for infrastructure.

Solid Waste - No solid waste emissions for infrastructure.

Construction Off-road Equipment Mitigation - Water exposed area (55% dust mitigation); Reduce vehicle speed to 15 mph on unpaved roads.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	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
Year	lb/day										lb/day					
2012	8.51	55.85	35.83	0.06	59.41	3.60	63.01	0.42	3.59	4.02	0.00	6,359.11	0.00	0.74	0.00	6,374.70
2013	7.92	52.07	34.58	0.06	59.41	3.30	62.71	0.42	3.29	3.72	0.00	6,359.27	0.00	0.69	0.00	6,373.75
2014	7.34	48.22	33.51	0.06	59.41	3.00	62.41	0.42	2.99	3.42	0.00	6,359.09	0.00	0.64	0.00	6,372.51
2015	6.78	44.27	32.57	0.06	59.41	2.71	62.12	0.42	2.71	3.13	0.00	6,359.10	0.00	0.59	0.00	6,371.47
2016	6.25	40.60	31.75	0.06	59.41	2.44	61.84	0.42	2.43	2.85	0.00	6,357.40	0.00	0.54	0.00	6,368.77
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	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
Year	lb/day										lb/day					
2012	8.51	55.85	35.83	0.06	58.99	3.60	62.59	0.20	3.59	3.79	0.00	6,359.11	0.00	0.74	0.00	6,374.70
2013	7.92	52.07	34.58	0.06	58.99	3.30	62.29	0.20	3.29	3.49	0.00	6,359.27	0.00	0.69	0.00	6,373.75
2014	7.34	48.22	33.51	0.06	58.99	3.00	61.99	0.20	2.99	3.19	0.00	6,359.09	0.00	0.64	0.00	6,372.51
2015	6.78	44.27	32.57	0.06	58.99	2.71	61.70	0.20	2.71	2.90	0.00	6,359.10	0.00	0.59	0.00	6,371.47
2016	6.25	40.60	31.75	0.06	58.99	2.44	61.43	0.20	2.43	2.63	0.00	6,357.40	0.00	0.54	0.00	6,368.77
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 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	lb/day										lb/day					
Area	0.02	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.09	0.15	0.83	0.00	0.10	0.00	0.10	0.00	0.00	0.00		70.56		0.01		70.69
Total	**0.11**	**0.15**	**0.83**	**0.00**	**0.10**	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**		**70.56**		**0.01**	**0.00**	**70.69**

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	lb/day										lb/day					
Area	0.02	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.09	0.15	0.83	0.00	0.10	0.00	0.10	0.00	0.00	0.00		70.56		0.01		70.69
Total	**0.11**	**0.15**	**0.83**	**0.00**	**0.10**	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**		**70.56**		**0.01**	**0.00**	**70.69**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Infrastructure Replacement - 2012

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	7.79	51.89	28.92	0.06		3.49	3.49		3.49	3.49		5,621.27		0.70		5,635.92
Total	**7.79**	**51.89**	**28.92**	**0.06**	**0.76**	**3.49**	**4.25**	**0.41**	**3.49**	**3.90**		**5,621.27**		**0.70**		**5,635.92**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.13	1.11	1.06	0.00	58.17	0.03	58.21	0.00	0.03	0.03		146.30		0.01		146.43
Vendor	0.36	2.55	3.46	0.00	0.13	0.07	0.20	0.00	0.07	0.07		371.61		0.02		372.00
Worker	0.24	0.30	2.39	0.00	0.34	0.01	0.35	0.00	0.01	0.01		219.93		0.02		220.35
Total	**0.73**	**3.96**	**6.91**	**0.00**	**58.64**	**0.11**	**58.76**	**0.00**	**0.11**	**0.11**		**737.84**		**0.05**		**738.78**

3.2 Infrastructure Replacement - 2012

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	7.79	51.89	28.92	0.06		3.49	3.49		3.49	3.49	0.00	5,621.27		0.70		5,635.92
Total	**7.79**	**51.69**	**28.92**	**0.06**	**0.34**	**3.49**	**3.83**	**0.19**	**3.49**	**3.68**	**0.00**	**5,621.27**		**0.70**		**5,635.92**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.13	1.11	1.06	0.00	58.17	0.03	58.21	0.00	0.03	0.03		146.30		0.01		146.43
Vendor	0.36	2.55	3.46	0.00	0.13	0.07	0.20	0.00	0.07	0.07		371.61		0.02		372.00
Worker	0.24	0.30	2.39	0.00	0.34	0.01	0.35	0.00	0.01	0.01		219.93		0.02		220.35
Total	**0.73**	**3.96**	**6.91**	**0.00**	**58.64**	**0.11**	**58.76**	**0.00**	**0.11**	**0.11**		**737.84**		**0.05**		**738.78**

3.2 Infrastructure Replacement - 2013

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	7.25	48.47	28.32	0.06		3.20	3.20		3.20	3.20		5,621.27		0.65		5,634.89
Total	**7.25**	**48.47**	**28.32**	**0.06**	**0.76**	**3.20**	**3.96**	**0.41**	**3.20**	**3.61**		**5,621.27**		**0.65**		**5,634.89**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.12	1.00	0.94	0.00	58.17	0.03	58.20	0.00	0.03	0.03		147.92		0.01		148.05
Vendor	0.33	2.34	3.15	0.00	0.13	0.07	0.20	0.00	0.06	0.06		374.65		0.02		375.01
Worker	0.22	0.27	2.17	0.00	0.34	0.01	0.35	0.00	0.01	0.01		215.43		0.02		215.80
Total	**0.67**	**3.61**	**6.26**	**0.00**	**58.64**	**0.11**	**58.75**	**0.00**	**0.10**	**0.10**		**738.00**		**0.05**		**738.86**

3.2 Infrastructure Replacement - 2013

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	7.25	48.47	28.32	0.06		3.20	3.20		3.20	3.20	0.00	5,621.27		0.65		5,634.89
Total	**7.25**	**48.47**	**28.32**	**0.06**	**0.34**	**3.20**	**3.54**	**0.19**	**3.20**	**3.39**	**0.00**	**5,621.27**		**0.65**		**5,634.89**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.12	1.00	0.94	0.00	58.17	0.03	58.20	0.00	0.03	0.03		147.92		0.01		148.05
Vendor	0.33	2.34	3.15	0.00	0.13	0.07	0.20	0.00	0.06	0.06		374.65		0.02		375.01
Worker	0.22	0.27	2.17	0.00	0.34	0.01	0.35	0.00	0.01	0.01		215.43		0.02		215.80
Total	**0.67**	**3.61**	**6.26**	**0.00**	**58.64**	**0.11**	**58.75**	**0.00**	**0.10**	**0.10**		**738.00**		**0.05**		**738.86**

3.2 Infrastructure Replacement - 2014

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	6.73	44.95	27.79	0.06		2.91	2.91		2.91	2.91		5,621.27		0.60		5,633.90
Total	**6.73**	**44.95**	**27.79**	**0.06**	**0.76**	**2.91**	**3.67**	**0.41**	**2.91**	**3.32**		**5,621.27**		**0.60**		**5,633.90**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.11	0.89	0.84	0.00	58.17	0.03	58.20	0.00	0.02	0.03		149.38		0.01		149.49
Vendor	0.30	2.14	2.91	0.00	0.13	0.06	0.19	0.00	0.05	0.06		377.45		0.02		377.78
Worker	0.20	0.25	1.97	0.00	0.34	0.01	0.35	0.00	0.01	0.01		210.99		0.02		211.33
Total	**0.61**	**3.28**	**5.72**	**0.00**	**58.64**	**0.10**	**58.74**	**0.00**	**0.08**	**0.10**		**737.62**		**0.05**		**736.60**

3.2 Infrastructure Replacement - 2014

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	6.73	44.95	27.79	0.06		2.91	2.91		2.91	2.91	0.00	5,621.27		0.60		5,633.90
Total	**6.73**	**44.95**	**27.79**	**0.06**	**0.34**	**2.91**	**3.25**	**0.19**	**2.91**	**3.10**	**0.00**	**5,621.27**		**0.60**		**5,633.90**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.11	0.89	0.84	0.00	58.17	0.03	58.20	0.00	0.02	0.03		149.38		0.01		149.49
Vendor	0.30	2.14	2.91	0.00	0.13	0.06	0.19	0.00	0.05	0.06		377.45		0.02		377.78
Worker	0.20	0.25	1.97	0.00	0.34	0.01	0.35	0.00	0.01	0.01		210.99		0.02		211.33
Total	**0.61**	**3.28**	**5.72**	**0.00**	**58.64**	**0.10**	**58.74**	**0.00**	**0.08**	**0.10**		**737.62**		**0.05**		**736.60**

3.2 Infrastructure Replacement - 2015

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	6.22	41.28	27.33	0.06		2.63	2.63		2.63	2.63		5,621.27		0.55		5,632.92
Total	**6.22**	**41.28**	**27.33**	**0.06**	**0.76**	**2.63**	**3.39**	**0.41**	**2.63**	**3.04**		**5,621.27**		**0.55**		**5,632.92**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.10	0.80	0.76	0.00	58.17	0.02	58.20	0.00	0.02	0.02		150.60		0.00		150.70
Vendor	0.28	1.97	2.68	0.00	0.13	0.05	0.19	0.00	0.05	0.05		379.87		0.01		380.17
Worker	0.19	0.23	1.81	0.00	0.34	0.01	0.35	0.00	0.01	0.01		207.36		0.02		207.68
Total	**0.57**	**3.00**	**5.25**	**0.00**	**58.64**	**0.08**	**58.74**	**0.00**	**0.08**	**0.08**		**737.83**		**0.03**		**738.55**

3.2 Infrastructure Replacement - 2015

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	6.22	41.28	27.33	0.06		2.63	2.63		2.63	2.63	0.00	5,621.27		0.55		5,632.92
Total	**6.22**	**41.28**	**27.33**	**0.06**	**0.34**	**2.63**	**2.97**	**0.19**	**2.63**	**2.82**	**0.00**	**5,621.27**		**0.55**		**5,632.92**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.10	0.80	0.76	0.00	58.17	0.02	58.20	0.00	0.02	0.02		150.60		0.00		150.70
Vendor	0.28	1.97	2.68	0.00	0.13	0.05	0.19	0.00	0.05	0.05		379.87		0.01		380.17
Worker	0.19	0.23	1.81	0.00	0.34	0.01	0.35	0.00	0.01	0.01		207.36		0.02		207.68
Total	**0.57**	**3.00**	**5.25**	**0.00**	**58.64**	**0.08**	**58.74**	**0.00**	**0.08**	**0.08**		**737.83**		**0.03**		**738.55**

3.2 Infrastructure Replacement - 2016

Unmitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.76	0.00	0.76	0.41	0.00	0.41						0.00
Off-Road	5.73	37.85	26.92	0.06		2.36	2.36		2.36	2.36		5,621.27		0.51		5,631.98
Total	**5.73**	**37.85**	**26.92**	**0.06**	**0.76**	**2.36**	**3.12**	**0.41**	**2.36**	**2.77**		**5,621.27**		**0.51**		**5,631.98**

Unmitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.09	0.72	0.69	0.00	58.17	0.02	58.20	0.00	0.02	0.02		151.68		0.00		151.77
Vendor	0.26	1.82	2.51	0.00	0.13	0.05	0.18	0.00	0.05	0.05		382.07		0.01		382.34
Worker	0.17	0.20	1.64	0.00	0.34	0.01	0.35	0.00	0.01	0.01		202.38		0.01		202.67
Total	**0.52**	**2.74**	**4.84**	**0.00**	**58.64**	**0.08**	**58.73**	**0.00**	**0.08**	**0.08**		**736.13**		**0.02**		**736.78**

3.2 Infrastructure Replacement - 2016

Mitigated Construction On-Site

	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	lb/day										lb/day					
Fugitive Dust					0.34	0.00	0.34	0.19	0.00	0.19						0.00
Off-Road	5.73	37.85	26.92	0.06		2.36	2.36		2.36	2.36	0.00	5,621.27		0.51		5,631.98
Total	**5.73**	**37.85**	**26.92**	**0.06**	**0.34**	**2.36**	**2.70**	**0.19**	**2.36**	**2.55**	**0.00**	**5,621.27**		**0.51**		**5,631.98**

Mitigated Construction Off-Site

	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	lb/day										lb/day					
Hauling	0.09	0.72	0.69	0.00	58.17	0.02	58.20	0.00	0.02	0.02		151.68		0.00		151.77
Vendor	0.26	1.82	2.51	0.00	0.13	0.05	0.18	0.00	0.05	0.05		382.07		0.01		382.34
Worker	0.17	0.20	1.64	0.00	0.34	0.01	0.35	0.00	0.01	0.01		202.38		0.01		202.67
Total	**0.52**	**2.74**	**4.84**	**0.00**	**58.64**	**0.08**	**58.73**	**0.00**	**0.08**	**0.08**		**736.13**		**0.02**		**736.78**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	0.09	0.15	0.83	0.00	0.10	0.00	0.10	0.00	0.00	0.00		70.56		0.01		70.69
Unmitigated	0.09	0.15	0.83	0.00	0.10	0.00	0.10	0.00	0.00	0.00		70.56		0.01		70.69
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	12.00	12.00	12.00	28,843	28,843
Total	12.00	12.00	12.00	28,843	28,843

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
General Light Industry	8.80	4.60	4.60	59.00	28.00	13.00

5.0 Energy Detail

5.1 Mitigation Measures 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	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
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	lb/day										lb/day					
General Light Industry	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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	lb/day										lb/day					
General Light Industry	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	lb/day										lb/day					
Mitigated	0.02	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.02	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
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	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.02					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.02**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

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	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.02					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.02**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation