



slo

2035



LAND USE &
CIRCULATION
UPDATE

APPENDIX H: GREENHOUSE GASES

Please see the next page.

SLOGPU_GHG_short-term-construction San Luis Obispo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	121.00	Dwelling Unit	39.29	217,800.00	346
Apartments Low Rise	124.00	Dwelling Unit	7.75	124,000.00	355
General Office Building	93.70	1000sqft	2.15	93,700.00	0
Strip Mall	96.00	1000sqft	2.20	96,000.00	0
Industrial Park	44.60	1000sqft	1.02	44,600.00	0
City Park	2.62	Acre	2.62	114,127.20	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.2	Precipitation Freq (Days)	44
Climate Zone	3			Operational Year	2015

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MW/hr)	641.35	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - City of SLO LUCE Update. This model run to estimate average-annual, worst-case 2015 construction emissions only for 20 year build-out conditions (2015-2035).
 Land Use - Land use inputs based on EIR Project Description, Table 2.4-4 Total Future Development Capacity within the Planning Subarea. Totals divided by 20 year averaged average.
 Construction Phasing - General Phasing based on total 1 year construction schedule for all land use types

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	75.00	197.00
tblConstructionPhase	NumDays	1,110.00	197.00

tblConstructionPhase	NumDays	110.00	20.00
tblConstructionPhase	NumDays	75.00	22.00
tblConstructionPhase	NumDays	40.00	22.00
tblConstructionPhase	PhaseEndDate	10/3/2016	12/31/2015
tblConstructionPhase	PhaseEndDate	2/27/2015	3/1/2015
tblConstructionPhase	PhaseEndDate	1/30/2015	1/31/2015
tblConstructionPhase	PhaseStartDate	1/1/2016	4/1/2015
tblConstructionPhase	PhaseStartDate	3/2/2015	3/1/2015
tblGrading	AcresOfGrading	50.00	275.00
tblProjectCharacteristics	OperationalYear	2014	2015

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

Year	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
	tons/yr															
2015	10.2167	5.9235	6.7391	9.0200e-003	0.7425	0.3323	1.0747	0.2486	0.3116	0.5602	0.0000	782.2128	782.2128	0.1190	0.0000	784.7108
Total	10.2167	5.9235	6.7391	9.0200e-003	0.7425	0.3323	1.0747	0.2486	0.3116	0.5602	0.0000	782.2128	782.2128	0.1190	0.0000	784.7108

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
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Year	tons/yr										MT/yr					
2015	10.2167	5.9234	6.7391	9.0200e-003	0.7425	0.3323	1.0747	0.2486	0.3116	0.5602	0.0000	782.2123	782.2123	0.1190	0.0000	784.7103
Total	10.2167	5.9234	6.7391	9.0200e-003	0.7425	0.3323	1.0747	0.2486	0.3116	0.5602	0.0000	782.2123	782.2123	0.1190	0.0000	784.7103

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
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	0.00	0.00

2.2 Overall Operational
Unmitigated Operational

Category	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
Area	3.7432	0.0401	3.4018	1.8000e-004	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0000	5.4556	5.4556	5.6900e-003	0.0000	5.5751
Energy	0.0463	0.4045	0.2324	2.5300e-003	0.0320	0.0320	0.0320	0.0320	0.0320	0.0320	0.0000	1,528.7861	1,528.7861	0.0572	0.0184	1,535.6963
Mobile	5.5591	12.3716	50.6994	0.0679	4.6930	0.1440	4.8370	1.2576	0.1320	1.3896	0.0000	5,561.4857	5,561.4857	0.2969	0.0000	5,567.7214
Waste						0.0000	0.0000	0.0000	0.0000	0.0000	89.7971	0.0000	89.7971	5.3069	0.0000	201.2411
Water						0.0000	0.0000	0.0000	0.0000	0.0000	15.8757	107.0261	122.9019	1.6354	0.0395	169.4918
Total	9.3486	12.8161	54.3336	0.0706	4.6930	0.1942	4.8872	1.2576	0.1822	1.4398	105.6728	7,202.7535	7,308.4264	7.3021	0.0579	7,479.7257

Mitigated Operational

Category	tons/yr											MT/yr				
	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
Area	3.7432	0.0401	3.4018	1.8000e-004	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0000	5.4556	5.4556	5.6900e-003	0.0000	5.5751
Energy	0.0463	0.4045	0.2324	2.5300e-003	0.0320	0.0320	0.0320	0.0320	0.0320	0.0320	0.0000	1,528.7861	1,528.7861	0.0572	0.0184	1,535.6963
Mobile	5.5591	12.3716	50.6994	0.0679	4.6930	4.8370	1.2576	0.1320	1.3896	0.0000	0.0000	5,561.4857	5,561.4857	0.2969	0.0000	5,567.7214
Waste					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	89.7971	0.0000	89.7971	5.3069	0.0000	201.2411
Water					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	15.8757	107.0261	122.9019	1.6351	0.0394	169.4665
Total	9.3486	12.8161	54.3336	0.0706	4.6930	4.8872	1.2576	0.1822	1.4398	1.4398	105.6728	7,202.753	7,308.4264	7.3018	0.0579	7,479.7003

Percent Reduction	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
	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	0.00	0.10

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	1/31/2015	5	22	
2	Grading	Grading	2/1/2015	3/1/2015	5	20	
3	Paving	Paving	3/1/2015	3/31/2015	5	22	
4	Building Construction	Building Construction	4/1/2015	12/31/2015	5	197	
5	Architectural Coating	Architectural Coating	4/1/2015	12/31/2015	5	197	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	11	6.00	781	0.48
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	260.00	83.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	52.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2015

Unmitigated Construction On-Site

Category	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
	tons/yr										MT/yr					
Fugitive Dust					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0579	0.6258	0.4690	4.3000e-004	0.0340	0.0340	0.0340	0.0313	0.0313	0.0313	0.0000	41.0312	41.0312	0.0123	0.0000	41.2885
Total	0.0579	0.6258	0.4690	4.3000e-004	0.1987	0.0340	0.2327	0.1092	0.0313	0.1405	0.0000	41.0312	41.0312	0.0123	0.0000	41.2885

Unmitigated Construction Off-Site

Category	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
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.6200e-003	0.0146	2.0000e-005	1.9100e-003	2.0000e-005	1.9200e-003	5.1000e-004	2.0000e-005	5.2000e-004	0.0000	1.6859	1.6859	1.1000e-004	0.0000	1.6882
Total	1.0600e-003	1.6200e-003	0.0146	2.0000e-005	1.9100e-003	2.0000e-005	1.9200e-003	5.1000e-004	2.0000e-005	5.2000e-004	0.0000	1.6859	1.6859	1.1000e-004	0.0000	1.6882

Mitigated Construction On-Site

Category	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
tons/yr																
MIT/yr																
Fugitive Dust					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0579	0.6258	0.4690	4.3000e-004	0.0340	0.0340	0.0340	0.0313	0.0313	0.0313	0.0000	41.0312	41.0312	0.0123	0.0000	41.2884
Total	0.0579	0.6258	0.4690	4.3000e-004	0.1987	0.0340	0.2327	0.1092	0.0313	0.1405	0.0000	41.0312	41.0312	0.0123	0.0000	41.2884

Mitigated Construction Off-Site

Category	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
tons/yr																
MIT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.6200e-003	0.0146	2.0000e-005	1.9100e-003	2.0000e-005	1.9200e-003	5.1000e-004	2.0000e-005	5.2000e-004	0.0000	1.6859	1.6859	1.1000e-004	0.0000	1.6882
Total	1.0600e-003	1.6200e-003	0.0146	2.0000e-005	1.9100e-003	2.0000e-005	1.9200e-003	5.1000e-004	2.0000e-005	5.2000e-004	0.0000	1.6859	1.6859	1.1000e-004	0.0000	1.6882

3.3 Grading - 2015

Unmitigated Construction On-Site

Category	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
tons/yr																
MIT/yr																
Fugitive Dust					0.2060	0.0000	0.2060	0.0489	0.0000	0.0489	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0678	0.7905	0.5084	6.2000e-004	0.0380	0.0380	0.0350	0.0350	0.0000	58.8422	58.8422	0.0176	0.0000	59.2111
Total	0.0678	0.7905	0.5084	6.2000e-004	0.0380	0.2441	0.0350	0.0489	0.0000	58.8422	58.8422	0.0176	0.0000	59.2111

Unmitigated Construction Off-Site

Category	tons/yr													MT/yr			
	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	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	1.0700e-003	1.6400e-003	0.0148	2.0000e-005	1.9300e-003	2.0000e-005	1.9400e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.7030	1.7030	1.1000e-004	0.0000	1.7053	
Total	1.0700e-003	1.6400e-003	0.0148	2.0000e-005	1.9300e-003	2.0000e-005	1.9400e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.7030	1.7030	1.1000e-004	0.0000	1.7053	

Mitigated Construction On-Site

Category	tons/yr													MT/yr			
	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	
Fugitive Dust					0.2060	0.0000	0.2060	0.0489	0.0000	0.0489	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0678	0.7905	0.5084	6.2000e-004	0.0380	0.0380	0.0380	0.0350	0.0350	0.0350	0.0000	58.8421	58.8421	0.0176	0.0000	59.2110	
Total	0.0678	0.7905	0.5084	6.2000e-004	0.2060	0.0380	0.2441	0.0489	0.0350	0.0838	0.0000	58.8421	58.8421	0.0176	0.0000	59.2110	

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	INBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	1.6400e-003	0.0148	2.0000e-005	1.9300e-003	2.0000e-005	1.9400e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.7030	1.7030	1.1000e-004	0.0000	1.7053
Total	1.0700e-003	1.6400e-003	0.0148	2.0000e-005	1.9300e-003	2.0000e-005	1.9400e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.7030	1.7030	1.1000e-004	0.0000	1.7053

3.4 Paving - 2015

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	INBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	0.0255	0.2769	0.1648	2.5000e-004	0.0156	0.0156	0.0156	0.0143	0.0143	0.0143	0.0000	23.3499	23.3499	6.9700e-003	0.0000	23.4963
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0255	0.2769	0.1648	2.5000e-004	0.0156	0.0156	0.0156	0.0143	0.0143	0.0143	0.0000	23.3499	23.3499	6.9700e-003	0.0000	23.4963

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	INBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																

Category	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	1.3500e-003	0.0122	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4049	1.4049	9.0000e-005	0.0000	1.4069
Total	8.8000e-004	1.3500e-003	0.0122	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4049	1.4049	9.0000e-005	0.0000	1.4069

Mitigated Construction On-Site

Category	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
Off-Road	0.0255	0.2769	0.1648	2.5000e-004	0.0156	0.0156	0.0156	0.0143	0.0143	0.0143	0.0000	23.3499	23.3499	6.9700e-003	0.0000	23.4963
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0255	0.2769	0.1648	2.5000e-004	0.0156	0.0156	0.0156	0.0143	0.0143	0.0143	0.0000	23.3499	23.3499	6.9700e-003	0.0000	23.4963

Mitigated Construction Off-Site

Category	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	1.3500e-003	0.0122	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4049	1.4049	9.0000e-005	0.0000	1.4069
Total	8.8000e-004	1.3500e-003	0.0122	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4049	1.4049	9.0000e-005	0.0000	1.4069

3.5 Building Construction - 2015
Unmitigated Construction On-Site

Category	tons/yr											MIT/yr				
	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
Off-Road	0.3604	2.9580	1.8463	2.6400e-003	0.2085	0.2085	0.2085	0.1961	0.1961	0.1961	0.0000	240.3344	240.3344	0.0603	0.0000	241.6007
Total	0.3604	2.9580	1.8463	2.6400e-003	0.2085	0.2085	0.2085	0.1961	0.1961	0.1961	0.0000	240.3344	240.3344	0.0603	0.0000	241.6007

Unmitigated Construction Off-Site

Category	tons/yr											MIT/yr				
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1137	0.7631	1.2487	1.3900e-003	0.0364	0.0118	0.0482	0.0104	0.0109	0.0213	0.0000	127.0362	127.0362	1.2400e-003	0.0000	127.0621
Worker	0.1368	0.2095	1.8942	2.7900e-003	0.2466	2.1700e-003	0.2487	0.0655	1.9500e-003	0.0675	0.0000	218.0629	218.0629	0.0142	0.0000	218.3611
Total	0.2505	0.9726	3.1429	4.1800e-003	0.2830	0.0140	0.2970	0.0760	0.0128	0.0888	0.0000	345.0991	345.0991	0.0154	0.0000	345.4232

Mitigated Construction On-Site

Category	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
	tons/yr															
Off-Road	0.3604	2.9580	1.8463	2.6400e-003	0.2085	0.2085	0.2085	0.1961	0.1961	0.1961	0.0000	240.3341	240.3341	0.0603	0.0000	241.6004
Total	0.3604	2.9580	1.8463	2.6400e-003	0.2085	0.2085	0.2085	0.1961	0.1961	0.1961	0.0000	240.3341	240.3341	0.0603	0.0000	241.6004
	MIT/yr															

Mitigated Construction Off-Site

Category	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
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1137	0.7631	1.2487	1.3900e-003	0.0364	0.0118	0.0482	0.0104	0.0109	0.0213	0.0000	127.0362	127.0362	1.2400e-003	0.0000	127.0621
Worker	0.1368	0.2095	1.8942	2.7900e-003	0.2466	2.1700e-003	0.2487	0.0655	1.9500e-003	0.0675	0.0000	218.0629	218.0629	0.0142	0.0000	218.3611
Total	0.2505	0.9726	3.1429	4.1800e-003	0.2830	0.0140	0.2970	0.0760	0.0128	0.0888	0.0000	345.0991	345.0991	0.0154	0.0000	345.4232
	MIT/yr															

3.6 Architectural Coating - 2015
Unmitigated Construction On-Site

Category	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
	tons/yr															
Archit. Coating	9.3842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MIT/yr															

Off-Road	0.0401	0.2532	0.1873	2.9000e-004	0.0218	0.0218	0.0218	0.0000	25.1496	3.2700e-003	0.0000	25.2183
Total	9.4243	0.2532	0.1873	2.9000e-004	0.0218	0.0218	0.0218	0.0000	25.1496	3.2700e-003	0.0000	25.2183

Unmitigated Construction Off-Site

Category	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
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0274	0.0419	0.3788	5.6000e-004	0.0493	4.3000e-004	0.0497	0.0131	3.9000e-004	0.0135	0.0000	43.6126	43.6126	2.8400e-003	0.0000	43.6722
Total	0.0274	0.0419	0.3788	5.6000e-004	0.0493	4.3000e-004	0.0497	0.0131	3.9000e-004	0.0135	0.0000	43.6126	43.6126	2.8400e-003	0.0000	43.6722

Mitigated Construction On-Site

Category	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
tons/yr																
Archit. Coating	9.3842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0401	0.2532	0.1873	2.9000e-004	0.0218	0.0218	0.0218	0.0218	0.0218	0.0218	0.0000	25.1495	25.1495	3.2700e-003	0.0000	25.2183
Total	9.4243	0.2532	0.1873	2.9000e-004	0.0218	0.0218	0.0218	0.0218	0.0218	0.0218	0.0000	25.1495	25.1495	3.2700e-003	0.0000	25.2183

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	INBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0274	0.0419	0.3788	5.6000e-004	0.0493	4.3000e-004	0.0497	0.0131	3.9000e-004	0.0135	0.0000	43.6126	43.6126	2.8400e-003	0.0000	43.6722
Total	0.0274	0.0419	0.3788	5.6000e-004	0.0493	4.3000e-004	0.0497	0.0131	3.9000e-004	0.0135	0.0000	43.6126	43.6126	2.8400e-003	0.0000	43.6722

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	INBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Mitigated	5.5591	12.3716	50.6994	0.0679	4.6930	0.1440	4.8370	1.2576	0.1320	1.3896	0.0000	5,561,485	5,561,485	0.2969	0.0000	5,567,721.4
Unmitigated	5.5591	12.3716	50.6994	0.0679	4.6930	0.1440	4.8370	1.2576	0.1320	1.3896	0.0000	5,561,485	5,561,485	0.2969	0.0000	5,567,721.4

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Apartments Low Rise	817.16	887.84	752.68	2,079,110	2,079,110
City Park	4.17	4.17	4.17	8,466	8,466
General Office Building	1,031.64	222.07	91.83	1,778,341	1,778,341

Industrial Park	310.42	111.05	32.56	717,973	717,973
Single Family Housing	1,157.97	1,219.68	1061.17	2,930,307	2,930,307
Strip Mall	4,254.72	4,035.84	1961.28	4,956,748	4,956,748
Total	7,576.07	6,480.65	3,903.68	12,470,944	12,470,944

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	13.00	5.00	5.00	35.80	21.00	43.20	86	11	3
City Park	13.00	5.00	5.00	33.00	48.00	19.00	66	28	6
General Office Building	13.00	5.00	5.00	33.00	48.00	19.00	77	19	4
Industrial Park	13.00	5.00	5.00	59.00	28.00	13.00	79	19	2
Single Family Housing	13.00	5.00	5.00	35.80	21.00	43.20	86	11	3
Strip Mall	13.00	5.00	5.00	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.455853	0.042424	0.214936	0.151343	0.068369	0.010021	0.017172	0.021892	0.002320	0.001408	0.008721	0.000858	0.004683

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	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
	tons/yr															
Electricity Mitigated					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1,070.492	1,070.4922	0.0484	0.0100	1,074.6132
Electricity Unmitigated					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1,070.492	1,070.4922	0.0484	0.0100	1,074.6132

Natural Gas Mitigated	0.4045	0.2324	2.5300e-003	0.0320	0.0320	0.0320	0.0000	458.2939	458.2939	8.7800e-003	8.4000e-003	461.0830
Natural Gas Unmitigated	0.4045	0.2324	2.5300e-003	0.0320	0.0320	0.0320	0.0000	458.2939	458.2939	8.7800e-003	8.4000e-003	461.0830

5.2 Energy by Land Use - Natural Gas

Unmitigated

Land Use	Natural Gas Use kBtu/yr	tons/yr										MIT/yr					
		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
Apartment Low Rise	1.82827e+06	9.8600e-003	0.0842	0.0359	5.4000e-004	6.8100e-003	6.8100e-003	6.8100e-003	0.0000	0.0000	0.0000	97.5632	97.5632	1.8700e-003	1.8700e-003	1.7900e-003	98.1570
City Park	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.28556e+06	6.9300e-003	0.0630	0.0529	3.8000e-004	4.7900e-003	4.7900e-003	4.7900e-003	0.0000	0.0000	0.0000	68.6026	68.6026	1.3100e-003	1.3100e-003	1.2600e-003	69.0201
Industrial Park	6.11912e+06	3.3000e-003	0.0300	0.0252	1.8000e-004	2.2800e-003	2.2800e-003	2.2800e-003	0.0000	0.0000	0.0000	32.6540	32.6540	6.3000e-004	6.3000e-004	6.0000e-004	32.8527
Single Family Housing	3.79196e+06	0.0205	0.1747	0.0744	1.1200e-003	0.0141	0.0141	0.0141	0.0000	0.0000	0.0000	202.3535	202.3535	3.8800e-003	3.7100e-003	0.003	203.5850
Strip Mall	1.07046e+06	5.7700e-003	0.0525	0.0441	3.1000e-004	3.9900e-003	3.9900e-003	3.9900e-003	0.0000	0.0000	0.0000	57.1206	57.1206	1.0900e-003	1.0500e-003	0.003	57.4683
Total		0.0463	0.4045	0.2324	2.5300e-003	0.0320	0.0320	0.0320	0.0000	0.0320	0.0320	458.2939	458.2939	8.7800e-003	8.4100e-003	0.003	461.0830

Mitigated

Land Use	Natural Gas Use kBtu/yr	tons/yr										MIT/yr					
		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
City Park	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

General Office Building	1.28556e+06	6.9300e-003	0.0630	0.0529	3.8000e-004	4.7900e-003	4.7900e-003	4.7900e-003	0.0000	68.6026	68.6026	1.3100e-003	1.2600e-003	69.0201
Industrial Park	611912	3.3000e-003	0.0300	0.0252	1.8000e-004	2.2800e-003	2.2800e-003	2.2800e-003	0.0000	32.6540	32.6540	6.3000e-004	6.0000e-004	32.8527
Single Family Housing	3.79196e+06	0.0205	0.1747	0.0744	1.1200e-003	0.0141	0.0141	0.0141	0.0000	202.3535	202.3535	3.8800e-003	3.7100e-003	203.5850
Strip Mall	1.0704e+06	5.7700e-003	0.0525	0.0441	3.1000e-004	3.9900e-003	3.9900e-003	3.9900e-003	0.0000	57.1206	57.1206	1.0900e-003	1.0500e-003	57.4683
Apartments Low Rise	1.82827e+06	9.8600e-003	0.0842	0.0359	5.4000e-004	6.8100e-003	6.8100e-003	6.8100e-003	0.0000	97.5632	97.5632	1.8700e-003	1.7900e-003	98.1570
Total		0.0463	0.4045	0.2324	2.5300e-003	0.0320	0.0320	0.0320	0.0000	458.2939	458.2939	8.7800e-003	8.4100e-003	461.0830

5.3 Energy by Land Use - Electricity

Unmitigated

Land Use	Electricity Use kWh/yr	Total CO2	CH4	N2O	CO2e
Apartments Low Rise	476402	138.5908	6.2700e-003	1.3000e-003	139.1243
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	948244	275.8551	0.0125	2.5800e-003	276.9170
Industrial Park	451352	131.3035	5.9400e-003	1.2300e-003	131.8090
Single Family Housing	927309	269.7648	0.0122	2.5200e-003	270.8033
Strip Mall	876480	254.9781	0.0115	2.3900e-003	255.9597
Total		1,070.4921	0.0484	0.0100	1,074.6132

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	KWh/yr	MT/yr			
Apartments Low Rise	476402	138.5908	6.2700e-003	1.3000e-003	139.1243
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	948244	275.8551	0.0125	2.5800e-003	276.9170
Industrial Park	451352	131.3035	5.9400e-003	1.2300e-003	131.8090
Single Family Housing	927309	269.7648	0.0122	2.5200e-003	270.8033
Strip Mall	876480	254.9781	0.0115	2.3900e-003	255.9597
Total		1,070.4921	0.0484	0.0100	1,074.6132

6.0 Area Detail

6.1 Mitigation Measures Area

Category	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
	tons/yr															
Mitigated	3.7432	0.0401	3.4018	1.8000e-004	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0000	5.4556	5.4556	5.6900e-003	0.0000	5.751
Unmitigated	3.7432	0.0401	3.4018	1.8000e-004	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0000	5.4556	5.4556	5.6900e-003	0.0000	5.751

6.2 Area by SubCategory

Unmitigated

SubCategory	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
tons/yr																
MT/yr																
Architectural Coating	0.9384				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.6957				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1091	0.0401	3.4018	1.8000e-004	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0000	5.4556	5.4556	5.6900e-003	0.0000	5.5751
Total	3.7432	0.0401	3.4018	1.8000e-004		0.0182	0.0182		0.0182	0.0182	0.0000	5.4556	5.4556	5.6900e-003	0.0000	5.5751

Mitigated

SubCategory	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
tons/yr																
MT/yr																
Architectural Coating	0.9384				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.6957				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1091	0.0401	3.4018	1.8000e-004	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0000	5.4556	5.4556	5.6900e-003	0.0000	5.5751
Total	3.7432	0.0401	3.4018	1.8000e-004		0.0182	0.0182		0.0182	0.0182	0.0000	5.4556	5.4556	5.6900e-003	0.0000	5.5751

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MIT/yr			
Mitigated	122.9019	1.6351	0.0394	169.4665
Unmitigated	122.9019	1.6354	0.0395	169.4918

7.2 Water by Land Use

Unmitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MIT/yr			
Apartments Low Rise	8.0791 / 5.09335	20.4666	0.2641	6.3800e-003	27.9909
City Park	10 / 3.12168	3.1785	1.4000e-004	3.0000e-005	3.1907
General Office Building	16.6537 / 10.2071	41.8911	0.5443	0.0132	57.4000
Industrial Park	10.3138 / 7.0	19.5072	0.3368	8.0900e-003	29.0872
Single Family Housing	7.88364 / 4.97012	19.9715	0.2577	6.2300e-003	27.3137
Strip Mall	7.11096 / 4.35833	17.8871	0.2324	5.6200e-003	24.5093
Total		122.9019	1.6354	0.0395	169.4918

Mitigated

Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr
Apartments Low Rise	8.07917	20.4666
City Park	5.09335	0.2640
General Office Building	1073.12168	3.1785
Industrial Park	16.65377	41.8911
Single Family Housing	10.2071	0.5442
Strip Mall	110.313870	19.5072
	7.883647	19.9715
	4.97012	0.2576
	7.110967	0.2324
	4.35833	0.0131
Total	122.9019	1.6351
		0.0394
		169.4665

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

Total CO2	CH4	N2O	CO2e
MT/yr			
Unmitigated	89.7971	5.3069	0.0000
Mitigated	89.7971	5.3069	0.0000
			201.2411
			201.2411

8.2 Waste by Land Use

Unmitigated

Land Use	Waste Disposed tons	Total CO2			CO2e
		CH4	N2O	CO2e	
MIT/yr					
Apartments Low Rise	57.04	11.5786	0.6843	0.0000	25.9484
City Park	0.23	0.0467	2.7600e-003	0.0000	0.1046
General Office Building	87.14	17.6886	1.0454	0.0000	39.6414
Industrial Park	55.3	11.2254	0.6634	0.0000	25.1569
Single Family Housing	141.86	28.7963	1.7018	0.0000	64.5344
Strip Mall	100.8	20.4615	1.2092	0.0000	45.8555
Total		89.7971	5.3069	0.0000	201.2411

Mitigated

Land Use	Waste Disposed tons	Total CO2			CO2e
		CH4	N2O	CO2e	
MIT/yr					
Apartments Low Rise	57.04	11.5786	0.6843	0.0000	25.9484
City Park	0.23	0.0467	2.7600e-003	0.0000	0.1046
General Office Building	87.14	17.6886	1.0454	0.0000	39.6414
Industrial Park	55.3	11.2254	0.6634	0.0000	25.1569
Single Family Housing	141.86	28.7963	1.7018	0.0000	64.5344
Strip Mall	100.8	20.4615	1.2092	0.0000	45.8555
Total		89.7971	5.3069	0.0000	201.2411

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

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