Trumark Homes Residential Project

Cancer Risk Calculation for Dry Cleaners

Costa Mesa	Cancer Risk		Chronic Hazard Risk
Risk (10 gals/yr) @25 meters	12.25		0.058
Risk (36 gals/yr) @25 meters	44.1		0.2
Exposure Duration	4		
Lifetime Exposure Duration	70		
Exposure Adjustment Factor		0.11	
Adjusted Cancer Risk (36 gals/yr) @30 meters	**5**		**0.21**

Source: Emission Inventory and Risk Assessment Guidelines for Perchloroethylene Dry Cleaners, SCAQMD, January 2007
http://www.aqmd.gov/docs/default-source/planning/risk-assessment/perc_dry_cleaner_hra.pdf?sfvrsn=0

The exposure adjustment factor is based on the following calculation

Dose Inhalation Calculation

	Residential (70 year Exposure)	Residential (4 year Exposure)	
Slope Factor	1.1	1.1	
DBR	302	581	
A	1	1	
EF	350	350	
ED	70	4	
AT	25550	25550	Exposure Adjustment Factor
Adjustment Factor @ 70 years	3.19E-04	3.50E-05	0.11

Page 5-16, OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines, August 2003.

5.4.1 Estimation of Exposure Through Inhalation

Exposure through inhalation (Dose-inh) is a function of the respiration rate and the concentration of a substance in the air.

1. Formula EQ 5.4.1 A:

$$\text{Dose-inh} = \frac{C_{air} * \{DBR\} * A * EF * ED * 10^{-6}}{AT} \qquad \text{(EQ 5.4.1 A)}$$

where:

- Dose-inh = Dose through inhalation (mg/kg/d)
- 10^{-6} = Micrograms to milligrams conversion, Liters to cubic meters conversion
- C_{air} = Concentration in air ($\mu g/m^3$)
- {DBR} = Daily breathing rate (L/kg body weight - day)
- A = Inhalation absorption factor
- EF = Exposure frequency (days/year)
- ED = Exposure duration (years)
- AT = Averaging time period over which exposure is averaged, in days (e.g., 25,550 d for 70 yr for cancer risk)

2. Recommended default values for EQ 5.4.1 A:

a. EF = 350 d/y
b. ED = 9; 30; or 70 yr
c. AT = 25,550 days
d. A = 1
e. {DBR} 9, 30 & 70 year exposure = see Table 5.4
f. {DBR} 30 and 70 year exposure = see Table 5. 5 for parametric models (distributions for Tier 3 stochastic risk assessment)

*Table 5.4 Point Estimates for Daily Breathing Rate for 9, 30, and 70-year Exposure Durations (DBR) (L/kg BW * Day)*

9-Year Exposure Duration		30 & 70-Year Exposure Duration		Off-site[1] Worker
Average	High End	Average	High End	(Single Value)
452	581	271	393	149

[1]This value corresponds to a 70 kg worker breathing 1.3 m^3/hour for an eight hour day. 1.3 m^3/hr is the breathing rate recommended by U.S.EPA, (1997a) as an hourly average for outdoor workers.

special sensitivity to carcinogens. OEHHA recommends weighting cancer risk by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age, and by a factor of 3 for exposures that occur from 2 years through 15 years of age. These weighting factors should be applied to all carcinogens. For estimating cancer risk for residential receptors, the incorporation of the ASFs results in a cancer risk adjustment factor (CRAF) of 1.7. For estimating cancer risk for student receptors, a CRAF of 3 should be applied. For estimating cancer risk for worker receptors, a CRAF of 1 should be applied.

cmia)
EF = exposure frequency (350 days/year)
ED = exposure duration (70 years)
CF = conversion factor (10^{-6}([mg/µg] * [m^3/L])
AT = averaging time (25,550 days or 70 years)

- **Step 5.** To estimate the cancer risk, the dose is multiplied by the cancer potency factor and the CRAF:

Cancer Risk = (Dose * CRAF * Cancer Potency Factor)

where:

Cancer Risk = risk (potential chances per million)
Dose = dose through inhalation (mg/kg-day)
CRAF = 1.7 (residential receptors with constant concentrations over 70 years)
Cancer Potency Factor = toxicity factor (mg/kg-day^{-1})

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765

PERMIT TO OPERATE

Permit No
F93483
A/N 466473

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership
If the billing for the annual renewal fee (Rule 301 f) is not received by the expiration date, contact the District

ID 11294

Legal Owner or Operator

VICTORIA CLNRS & ALTERATIONS Y KIM DBA
1125 VICTORIA ST, "K"
COSTA MESA, CA 92627-3975

Equipment Location: 1125 VICTORIA ST, "K", COSTA MESA, CA 92627-3975

Equipment Description :

DRY CLEANING MACHINE, PERCHLOROETHYLENE, MULTIMATIC, MODEL NO SS-250, WITH A BUILT-IN REFRIGERATED VAPOR CONDENSER AND AN ADD-ON SECONDARY CONTROL SYSTEM

Conditions :

1 OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW

2 THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES

3 THE TOTAL QUANTITY OF PERCHLOROETHYLENE THAT IS USED AT THIS FACILITY SHALL NOT EXCEED 36 GALLONS PER CALENDAR YEAR

4 OPERATION OF THIS EQUIPMENT SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF RULES 1402 AND 1421

5 A TEMPERATURE GAUGE WITH A MINIMUM RANGE OF 0 TO 150 DEGREES FAHRENHEIT SHALL BE INSTALLED IN THE OUTLET DUCT OF THE CONDENSER

6 THE REFRIGERATED VAPOR CONDENSER ON THE DRY-TO-DRY UNIT SHALL BE OPERATED DURING THE CLOSED LOOP COOL-DOWN PERIOD UNTIL THE AIR TEMPERATURE AT THE CONDENSER OUTLET IS 45 DEGREES FAHRENHEIT OR LOWER

7 COMPLETE RECORDS OF MONTHLY REPLENISHED SOLVENT SHALL BE PREPARED, KEPT FOR AT LEAST TWO YEARS AND BE MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST

8 ALL WASTE MATERIALS WHICH HAVE COME INTO CONTACT WITH ANY SOLVENT SHALL BE DISCARDED AS HAZARDOUS WASTE

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9 THE ADD-ON SECONDARY CONTROL SYSTEM SHALL BE SIZED AND CAPABLE OF REDUCING THE PERCHLOROETHYLENE CONCENTRATION IN THE DRUM TO 300 PPMV OR LESS IN THE MAXIMUM VOLUME OF RECIRCULATING AIR IN THE DRY CLEANING MACHINE AND ALL CONTIGUOUS PIPING

10 THE AQMD ENGINEER IDENTIFIED IN THIS PERMIT SHALL BE NOTIFIED WITHIN 30 DAYS AFTER ACHIEVING MAXIMUM OPERATING CONDITIONS, BUT NO LATER THAN 180 DAYS AFTER INITIAL START-UP

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES

EXECUTIVE OFFICER

Doris M Bailey

By Doris M Bailey/TT01
10/30/2007

FILE COPY

Existing R&D

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Area was provided by Trumark Homes.

Construction Phase - Construction data provided by Trumark Homes.

Off-road Equipment - Work hours per day was provided.

Off-road Equipment - Construction data provided by Trumark Homes.

Demolition - Construction data provided by Trumark Homes.

Grading - Construction data provided by Trumark Homes.

Vehicle Trips - Trip generation rate based on Traffic Study

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Woodstoves - Compliance with SCAQMD Rule.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDT1	0.06	0.07

tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00

tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00

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					
2015	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	**0.0000**	**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**

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					
2015	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	**0.0000**	**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**

	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**	**N20**	**CO2e**
Percent Reduction	**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

	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	0.2387	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3100e-003
Energy	5.8300e-003	0.0530	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003	0.0000	189.9487	189.9487	7.1800e-003	2.3200e-003	190.8175
Mobile	0.1722	0.2030	2.0494	5.1000e-003	0.3920	2.9200e-003	0.3949	0.1041	2.6900e-003	0.1068	0.0000	378.4484	378.4484	0.0181	0.0000	378.8285
Waste						0.0000	0.0000		0.0000	0.0000	0.7714	0.0000	0.7714	0.0456	0.0000	1.7287
Water						0.0000	0.0000		0.0000	0.0000	7.7996	91.6070	99.4066	0.8053	0.0198	122.4518
Total	**0.4167**	**0.2561**	**2.0946**	**5.4200e-003**	**0.3920**	**6.9500e-003**	**0.3989**	**0.1041**	**6.7200e-003**	**0.1108**	**8.5710**	**660.0053**	**668.5763**	**0.8762**	**0.0221**	**693.8279**

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	0.2387	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3100e-003
Energy	5.8300e-003	0.0530	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003	0.0000	189.9487	189.9487	7.1800e-003	2.3200e-003	190.8175
Mobile	0.1722	0.2030	2.0494	5.1000e-003	0.3920	2.9200e-003	0.3949	0.1041	2.6900e-003	0.1068	0.0000	378.4484	378.4484	0.0181	0.0000	378.8285
Waste						0.0000	0.0000		0.0000	0.0000	0.7714	0.0000	0.7714	0.0456	0.0000	1.7287
Water						0.0000	0.0000		0.0000	0.0000	7.7996	91.6070	99.4066	0.8052	0.0198	122.4394
Total	**0.4167**	**0.2561**	**2.0946**	**5.4200e-003**	**0.3920**	**6.9500e-003**	**0.3989**	**0.1041**	**6.7200e-003**	**0.1108**	**8.5710**	**660.0053**	**668.5763**	**0.8760**	**0.0221**	**693.8154**

	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	N20	CO2e
Percent Reduction	**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**	**0.02**	**0.14**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/29/2015	2/3/2015	5	4	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	0	6.00	174	0.41
Grading	Rubber Tired Dozers	0	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	0	7.00	97	0.37

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
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	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	**0.0000**	**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**

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	0.0000	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	0.0000	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	**0.0000**	**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**

3.2 Grading - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	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	**0.0000**	**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**

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	0.0000	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	0.0000	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	**0.0000**	**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**

4.0 Operational Detail - Mobile

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	0.1722	0.2030	2.0494	5.1000e-003	0.3920	2.9200e-003	0.3949	0.1041	2.6900e-003	0.1068	0.0000	378.4484	378.4484	0.0181	0.0000	378.8285
Unmitigated	0.1722	0.2030	2.0494	5.1000e-003	0.3920	2.9200e-003	0.3949	0.1041	2.6900e-003	0.1068	0.0000	378.4484	378.4484	0.0181	0.0000	378.8285

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Research & Development	405.50	95.00	55.50	1,051,243	1,051,243
Total	405.50	95.00	55.50	1,051,243	1,051,243

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.570233	0.066995	0.200695	0.154865	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.004850	0.000000	0.002363

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

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						0.0000	0.0000		0.0000	0.0000	0.0000	132.2091	132.2091	6.0800e-003	1.2600e-003	132.7265
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	132.2091	132.2091	6.0800e-003	1.2600e-003	132.7265
NaturalGas Mitigated	5.8300e-003	0.0530	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003	0.0000	57.7396	57.7396	1.1100e-003	1.0600e-003	58.0910
NaturalGas Unmitigated	5.8300e-003	0.0530	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003	0.0000	57.7396	57.7396	1.1100e-003	1.0600e-003	58.0910

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/yr	tons/yr										MT/yr					
Research & Development	1.082e+006	5.8300e-003	0.0530	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003	0.0000	57.7396	57.7396	1.1100e-003	1.0600e-003	58.0910
Total		**5.8300e-003**	**0.0530**	**0.0446**	**3.2000e-004**		**4.0300e-003**	**4.0300e-003**		**4.0300e-003**	**4.0300e-003**	**0.0000**	**57.7396**	**57.7396**	**1.1100e-003**	**1.0600e-003**	**58.0910**

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/yr	tons/yr										MT/yr					
Research & Development	1.082e+006	5.8300e-003	0.0530	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003	0.0000	57.7396	57.7396	1.1100e-003	1.0600e-003	58.0910
Total		**5.8300e-003**	**0.0530**	**0.0446**	**3.2000e-004**		**4.0300e-003**	**4.0300e-003**		**4.0300e-003**	**4.0300e-003**	**0.0000**	**57.7396**	**57.7396**	**1.1100e-003**	**1.0600e-003**	**58.0910**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Research & Development	462000	132.2091	6.0800e-003	1.2600e-003	132.7265
Total		**132.2091**	**6.0800e-003**	**1.2600e-003**	**132.7265**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Research & Development	462000	132.2091	6.0800e-003	1.2600e-003	132.7265
Total		**132.2091**	**6.0800e-003**	**1.2600e-003**	**132.7265**

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	0.2387	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3100e-003
Unmitigated	0.2387	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3100e-003

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	0.0579					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1807					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3100e-003
Total	**0.2387**	**1.0000e-005**	**6.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2400e-003**	**1.2400e-003**	**0.0000**	**0.0000**	**1.3100e-003**

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	0.0579					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1807					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3100e-003
Total	**0.2387**	**1.0000e-005**	**6.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2400e-003**	**1.2400e-003**	**0.0000**	**0.0000**	**1.3100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	99.4066	0.8052	0.0198	122.4394
Unmitigated	99.4066	0.8053	0.0198	122.4518

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Research & Development	24.5847 / 0	99.4066	0.8053	0.0198	122.4518
Total		**99.4066**	**0.8053**	**0.0198**	**122.4518**

7.2 Water by Land Use

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Research & Development	24.5847 / 0	99.4066	0.8052	0.0198	122.4394
Total		**99.4066**	**0.8052**	**0.0198**	**122.4394**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	0.7714	0.0456	0.0000	1.7287
Mitigated	0.7714	0.0456	0.0000	1.7287

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Research & Development	3.8	0.7714	0.0456	0.0000	1.7287
Total		**0.7714**	**0.0456**	**0.0000**	**1.7287**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Research & Development	3.8	0.7714	0.0456	0.0000	1.7287
Total		**0.7714**	**0.0456**	**0.0000**	**1.7287**

9.0 Operational Offroad

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

10.0 Vegetation

Existing R&D

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Area was provided by Trumark Homes.

Construction Phase - Construction data provided by Trumark Homes.

Off-road Equipment - Work hours per day was provided.

Off-road Equipment - Construction data provided by Trumark Homes.

Demolition - Construction data provided by Trumark Homes.

Grading - Construction data provided by Trumark Homes.

Vehicle Trips - Trip generation rate based on Traffic Study

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Woodstoves - Compliance with SCAQMD Rule.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDT1	0.06	0.07

tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00

tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00

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					
2015	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	**0.0000**	**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**

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					
2015	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	**0.0000**	**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**

	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**	**N20**	**CO2e**
Percent Reduction	**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

	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	1.3080	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Energy	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
Mobile	1.2770	1.2941	15.2928	0.0384	2.8597	0.0209	2.8807	0.7581	0.0193	0.7774		3,139.3486	3,139.3486	0.1431		3,142.3527
Total	**2.6169**	**1.5848**	**15.5422**	**0.0401**	**2.8597**	**0.0430**	**2.9028**	**0.7581**	**0.0414**	**0.7995**		**3,488.1105**	**3,488.1105**	**0.1498**	**6.3900e-003**	**3,493.2377**

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	1.3080	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Energy	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
Mobile	1.2770	1.2941	15.2928	0.0384	2.8597	0.0209	2.8807	0.7581	0.0193	0.7774		3,139.3486	3,139.3486	0.1431		3,142.3527
Total	**2.6169**	**1.5848**	**15.5422**	**0.0401**	**2.8597**	**0.0430**	**2.9028**	**0.7581**	**0.0414**	**0.7995**		**3,488.1105**	**3,488.1105**	**0.1498**	**6.3900e-003**	**3,493.2377**

	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	N20	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/29/2015	2/3/2015	5	4	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	0	6.00	174	0.41
Grading	Rubber Tired Dozers	0	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	0	7.00	97	0.37

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
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	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	**0.0000**	**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**

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	0.0000	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
Worker	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	**0.0000**	**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**

3.2 Grading - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	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	**0.0000**	**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**

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	0.0000	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
Worker	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	**0.0000**	**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**

4.0 Operational Detail - Mobile

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	1.2770	1.2941	15.2928	0.0384	2.8597	0.0209	2.8807	0.7581	0.0193	0.7774		3,139.3486	3,139.3486	0.1431		3,142.3527
Unmitigated	1.2770	1.2941	15.2928	0.0384	2.8597	0.0209	2.8807	0.7581	0.0193	0.7774		3,139.3486	3,139.3486	0.1431		3,142.3527

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Research & Development	405.50	95.00	55.50	1,051,243	1,051,243
Total	405.50	95.00	55.50	1,051,243	1,051,243

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.570233	0.066995	0.200695	0.154865	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.004850	0.000000	0.002363

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

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	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
NaturalGas Unmitigated	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735

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/yr	lb/day										lb/day					
Research & Development	2964.38	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
Total		**0.0320**	**0.2906**	**0.2441**	**1.7400e-003**		**0.0221**	**0.0221**		**0.0221**	**0.0221**		**348.7510**	**348.7510**	**6.6800e-003**	**6.3900e-003**	**350.8735**

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/yr	lb/day										lb/day					
Research & Development	2.96438	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
Total		**0.0320**	**0.2906**	**0.2441**	**1.7400e-003**		**0.0221**	**0.0221**		**0.0221**	**0.0221**		**348.7510**	**348.7510**	**6.6800e-003**	**6.3900e-003**	**350.8735**

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	1.3080	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Unmitigated	1.3080	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116

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	0.3175					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-004	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Total	**1.3080**	**5.0000e-005**	**5.2000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0116**

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	0.3175					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-004	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Total	**1.3080**	**5.0000e-005**	**5.2000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0116**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Existing R&D

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Area was provided by Trumark Homes.

Construction Phase - Construction data provided by Trumark Homes.

Off-road Equipment - Work hours per day was provided.

Off-road Equipment - Construction data provided by Trumark Homes.

Demolition - Construction data provided by Trumark Homes.

Grading - Construction data provided by Trumark Homes.

Vehicle Trips - Trip generation rate based on Traffic Study

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Woodstoves - Compliance with SCAQMD Rule.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDT1	0.06	0.07

tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00

tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00

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					
2015	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	**0.0000**	**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**

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					
2015	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	**0.0000**	**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**

	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**	**N20**	**CO2e**
Percent Reduction	**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

	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	1.3080	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Energy	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
Mobile	1.3047	1.4164	14.3950	0.0360	2.8597	0.0209	2.8807	0.7581	0.0193	0.7774		2,945.4114	2,945.4114	0.1431		2,948.4155
Total	**2.6446**	**1.7071**	**14.6443**	**0.0378**	**2.8597**	**0.0430**	**2.9028**	**0.7581**	**0.0414**	**0.7995**		**3,294.1734**	**3,294.1734**	**0.1498**	**6.3900e-003**	**3,299.3005**

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	1.3080	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Energy	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
Mobile	1.3047	1.4164	14.3950	0.0360	2.8597	0.0209	2.8807	0.7581	0.0193	0.7774		2,945.4114	2,945.4114	0.1431		2,948.4155
Total	**2.6446**	**1.7071**	**14.6443**	**0.0378**	**2.8597**	**0.0430**	**2.9028**	**0.7581**	**0.0414**	**0.7995**		**3,294.1734**	**3,294.1734**	**0.1498**	**6.3900e-003**	**3,299.3005**

	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	N20	CO2e
Percent Reduction	**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**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/29/2015	2/3/2015	5	4	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	0	6.00	174	0.41
Grading	Rubber Tired Dozers	0	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	0	7.00	97	0.37

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
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	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	**0.0000**	**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**

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	0.0000	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
Worker	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	**0.0000**	**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**

3.2 Grading - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	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	**0.0000**	**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**

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	0.0000	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
Worker	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	**0.0000**	**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**

4.0 Operational Detail - Mobile

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	1.3047	1.4164	14.3950	0.0360	2.8597	0.0209	2.8807	0.7581	0.0193	0.7774		2,945.4114	2,945.4114	0.1431		2,948.4155
Unmitigated	1.3047	1.4164	14.3950	0.0360	2.8597	0.0209	2.8807	0.7581	0.0193	0.7774		2,945.4114	2,945.4114	0.1431		2,948.4155

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Research & Development	405.50	95.00	55.50	1,051,243	1,051,243
Total	405.50	95.00	55.50	1,051,243	1,051,243

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.570233	0.066995	0.200695	0.154865	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.004850	0.000000	0.002363

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

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	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
NaturalGas Unmitigated	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735

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/yr	lb/day										lb/day					
Research & Development	2964.38	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
Total		**0.0320**	**0.2906**	**0.2441**	**1.7400e-003**		**0.0221**	**0.0221**		**0.0221**	**0.0221**		**348.7510**	**348.7510**	**6.6800e-003**	**6.3900e-003**	**350.8735**

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/yr	lb/day										lb/day					
Research & Development	2.96438	0.0320	0.2906	0.2441	1.7400e-003		0.0221	0.0221		0.0221	0.0221		348.7510	348.7510	6.6800e-003	6.3900e-003	350.8735
Total		**0.0320**	**0.2906**	**0.2441**	**1.7400e-003**		**0.0221**	**0.0221**		**0.0221**	**0.0221**		**348.7510**	**348.7510**	**6.6800e-003**	**6.3900e-003**	**350.8735**

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	1.3080	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Unmitigated	1.3080	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116

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	0.3175					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-004	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Total	**1.3080**	**5.0000e-005**	**5.2000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0116**

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	0.3175					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-004	5.0000e-005	5.2000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0116
Total	**1.3080**	**5.0000e-005**	**5.2000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0116**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Trumark Homes

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.26	Acre	0.26	11,499.84	0
Single Family Housing	28.00	Dwelling Unit	2.04	50,400.00	80

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Area was provided by Trumark Homes.

Construction Phase - Construction data provided by Trumark Homes.

Off-road Equipment - Work hours per day was provided.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Demolition - Construction data provided by Trumark Homes.

Grading - Construction data provided by Trumark Homes.

Vehicle Trips - Trip generation rate based on Traffic Study

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Woodstoves - Compliance with SCAQMD Rule.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	220.00	266.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	6.00	40.00
tblConstructionPhase	NumDays	10.00	4.00
tblConstructionPhase	PhaseEndDate	1/14/2016	11/15/2016
tblConstructionPhase	PhaseEndDate	11/7/2016	11/15/2016

tblConstructionPhase	PhaseEndDate	9/24/2015	9/25/2015
tblConstructionPhase	PhaseEndDate	11/21/2016	11/15/2015
tblConstructionPhase	PhaseEndDate	10/27/2015	11/1/2015
tblConstructionPhase	PhaseStartDate	11/16/2015	9/15/2016
tblConstructionPhase	PhaseStartDate	11/2/2015	11/10/2015
tblConstructionPhase	PhaseStartDate	7/31/2015	8/1/2015
tblConstructionPhase	PhaseStartDate	11/16/2016	11/10/2015
tblConstructionPhase	PhaseStartDate	9/26/2015	10/1/2015
tblGrading	AcresOfGrading	0.00	2.00
tblLandUse	LandUseSquareFeet	11,325.60	11,499.84
tblLandUse	LotAcreage	9.09	2.04
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00

tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	MCY	4.3560e-003	4.8500e-003

tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	SU_TR	8.77	9.52
tblVehicleTrips	WD_TR	9.57	9.52

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					
2015	0.1571	1.6088	1.1294	1.3200e-003	0.2153	0.0894	0.3047	0.1056	0.0830	0.1886	0.0000	123.1375	123.1375	0.0298	0.0000	123.7639
2016	0.5207	1.9592	0.9846	1.7200e-003	0.0230	0.1038	0.1268	6.1800e-003	0.0962	0.1023	0.0000	156.2879	156.2879	0.0373	0.0000	157.0701
Total	**0.6778**	**3.5680**	**2.1140**	**3.0400e-003**	**0.2383**	**0.1931**	**0.4314**	**0.1117**	**0.1792**	**0.2909**	**0.0000**	**279.4254**	**279.4254**	**0.0671**	**0.0000**	**280.8341**

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					
2015	0.1571	1.6088	1.1294	1.3200e-003	0.0894	0.0894	0.1788	0.0426	0.0830	0.1257	0.0000	123.1373	123.1373	0.0298	0.0000	123.7638
2016	0.5207	1.9592	0.9846	1.7200e-003	0.0230	0.1038	0.1268	6.1800e-003	0.0962	0.1023	0.0000	156.2878	156.2878	0.0373	0.0000	157.0700
Total	**0.6778**	**3.5680**	**2.1140**	**3.0400e-003**	**0.1124**	**0.1931**	**0.3056**	**0.0488**	**0.1792**	**0.2280**	**0.0000**	**279.4251**	**279.4251**	**0.0671**	**0.0000**	**280.8338**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.82**	**0.00**	**29.17**	**56.31**	**0.00**	**21.63**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.3575	5.7300e-003	0.4676	3.0000e-004		0.0283	0.0283		0.0283	0.0283	2.9741	6.1870	9.1611	9.3400e-003	2.0000e-004	9.4199
Energy	4.3600e-003	0.0373	0.0159	2.4000e-004		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	99.9646	99.9646	3.4400e-003	1.3300e-003	100.4495
Mobile	0.1481	0.1757	1.7724	4.4200e-003	0.3396	2.5200e-003	0.3422	0.0902	2.3300e-003	0.0925	0.0000	327.8345	327.8345	0.0157	0.0000	328.1636
Waste						0.0000	0.0000		0.0000	0.0000	6.6581	0.0000	6.6581	0.3935	0.0000	14.9212
Water						0.0000	0.0000		0.0000	0.0000	0.5788	10.4543	11.0331	0.0599	1.5000e-003	12.7574
Total	**0.5099**	**0.2187**	**2.2559**	**4.9600e-003**	**0.3396**	**0.0339**	**0.3735**	**0.0902**	**0.0337**	**0.1238**	**10.2110**	**444.4403**	**454.6513**	**0.4819**	**3.0300e-003**	**465.7116**

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	0.2664	3.4000e-003	0.2917	2.0000e-005		2.0100e-003	2.0100e-003		2.0000e-003	2.0000e-003	0.0000	6.5231	6.5231	5.9000e-004	1.1000e-004	6.5699
Energy	4.3600e-003	0.0373	0.0159	2.4000e-004		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	99.9646	99.9646	3.4400e-003	1.3300e-003	100.4495
Mobile	0.1481	0.1757	1.7724	4.4200e-003	0.3396	2.5200e-003	0.3422	0.0902	2.3300e-003	0.0925	0.0000	327.8345	327.8345	0.0157	0.0000	328.1636
Waste						0.0000	0.0000		0.0000	0.0000	6.6581	0.0000	6.6581	0.3935	0.0000	14.9212
Water						0.0000	0.0000		0.0000	0.0000	0.5788	10.4543	11.0331	0.0599	1.5000e-003	12.7565
Total	**0.4188**	**0.2163**	**2.0800**	**4.6800e-003**	**0.3396**	**7.5400e-003**	**0.3472**	**0.0902**	**7.3400e-003**	**0.0975**	**7.2369**	**444.7765**	**452.0133**	**0.4731**	**2.9400e-003**	**462.8608**

	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	N20	CO2e
Percent Reduction	**17.87**	**1.07**	**7.80**	**5.65**	**0.00**	**77.73**	**7.04**	**0.00**	**78.19**	**21.26**	**29.13**	**-0.08**	**0.58**	**1.82**	**2.97**	**0.61**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/15/2015	7/30/2015	5	34	
2	Grading	Grading	8/1/2015	9/25/2015	5	40	
3	Trenching	Trenching	10/1/2015	11/1/2015	5	22	
4	Building Construction	Building Construction	11/10/2015	11/15/2016	5	266	
5	Paving	Paving	11/10/2015	11/15/2015	5	4	
6	Architectural Coating	Architectural Coating	9/15/2016	11/15/2016	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 102,060; Residential Outdoor: 34,020; Non-Residential Indoor: 17,250; Non-Residential Outdoor: 5,750 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	12.00	81	0.73
Demolition	Rubber Tired Dozers	1	12.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	1	12.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Building Construction	Cranes	1	12.00	226	0.29
Building Construction	Forklifts	1	12.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	0	8.00	9	0.56
Paving	Pavers	0	8.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	1	12.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Architectural Coating	Air Compressors	1	12.00	78	0.48
Trenching	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Trenching	Rollers	1	12.00	80	0.38

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
Demolition	3	8.00	0.00	227.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	15.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 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					0.0246	0.0000	0.0246	3.7300e-003	0.0000	3.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0598	0.5817	0.4387	4.7000e-004		0.0339	0.0339		0.0319	0.0319	0.0000	42.8909	42.8909	0.0102	0.0000	43.1048
Total	**0.0598**	**0.5817**	**0.4387**	**4.7000e-004**	**0.0246**	**0.0339**	**0.0585**	**3.7300e-003**	**0.0319**	**0.0357**	**0.0000**	**42.8909**	**42.8909**	**0.0102**	**0.0000**	**43.1048**

3.2 Demolition - 2015

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	2.2900e-003	0.0372	0.0266	8.0000e-005	1.9500e-003	6.2000e-004	2.5600e-003	5.3000e-004	5.7000e-004	1.1000e-003	0.0000	7.7308	7.7308	6.0000e-005	0.0000	7.7321
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	6.1000e-004	8.9000e-004	9.2400e-003	2.0000e-005	1.4900e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.4479	1.4479	8.0000e-005	0.0000	1.4497
Total	**2.9000e-003**	**0.0381**	**0.0358**	**1.0000e-004**	**3.4400e-003**	**6.3000e-004**	**4.0700e-003**	**9.3000e-004**	**5.8000e-004**	**1.5100e-003**	**0.0000**	**9.1788**	**9.1788**	**1.4000e-004**	**0.0000**	**9.1818**

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					9.6000e-003	0.0000	9.6000e-003	1.4500e-003	0.0000	1.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0598	0.5817	0.4387	4.7000e-004		0.0339	0.0339		0.0319	0.0319	0.0000	42.8909	42.8909	0.0102	0.0000	43.1047
Total	**0.0598**	**0.5817**	**0.4387**	**4.7000e-004**	**9.6000e-003**	**0.0339**	**0.0435**	**1.4500e-003**	**0.0319**	**0.0334**	**0.0000**	**42.8909**	**42.8909**	**0.0102**	**0.0000**	**43.1047**

3.2 Demolition - 2015

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	2.2900e-003	0.0372	0.0266	8.0000e-005	1.9500e-003	6.2000e-004	2.5600e-003	5.3000e-004	5.7000e-004	1.1000e-003	0.0000	7.7308	7.7308	6.0000e-005	0.0000	7.7321
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	6.1000e-004	8.9000e-004	9.2400e-003	2.0000e-005	1.4900e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.4479	1.4479	8.0000e-005	0.0000	1.4497
Total	**2.9000e-003**	**0.0381**	**0.0358**	**1.0000e-004**	**3.4400e-003**	**6.3000e-004**	**4.0700e-003**	**9.3000e-004**	**5.8000e-004**	**1.5100e-003**	**0.0000**	**9.1788**	**9.1788**	**1.4000e-004**	**0.0000**	**9.1818**

3.3 Grading - 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					0.1817	0.0000	0.1817	0.0994	0.0000	0.0994	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0490	0.5346	0.4021	3.6000e-004		0.0282	0.0282		0.0259	0.0259	0.0000	34.3302	34.3302	0.0103	0.0000	34.5454
Total	**0.0490**	**0.5346**	**0.4021**	**3.6000e-004**	**0.1817**	**0.0282**	**0.2099**	**0.0994**	**0.0259**	**0.1254**	**0.0000**	**34.3302**	**34.3302**	**0.0103**	**0.0000**	**34.5454**

3.3 Grading - 2015

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	0.0000	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	4.5000e-004	6.5000e-004	6.7900e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0647	1.0647	6.0000e-005	0.0000	1.0659
Total	**4.5000e-004**	**6.5000e-004**	**6.7900e-003**	**1.0000e-005**	**1.1000e-003**	**1.0000e-005**	**1.1100e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**1.0647**	**1.0647**	**6.0000e-005**	**0.0000**	**1.0659**

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					0.0709	0.0000	0.0709	0.0388	0.0000	0.0388	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0490	0.5346	0.4021	3.6000e-004		0.0282	0.0282		0.0259	0.0259	0.0000	34.3302	34.3302	0.0103	0.0000	34.5454
Total	**0.0490**	**0.5346**	**0.4021**	**3.6000e-004**	**0.0709**	**0.0282**	**0.0991**	**0.0388**	**0.0259**	**0.0647**	**0.0000**	**34.3302**	**34.3302**	**0.0103**	**0.0000**	**34.5454**

3.3 Grading - 2015

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	0.0000	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	4.5000e-004	6.5000e-004	6.7900e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0647	1.0647	6.0000e-005	0.0000	1.0659
Total	**4.5000e-004**	**6.5000e-004**	**6.7900e-003**	**1.0000e-005**	**1.1000e-003**	**1.0000e-005**	**1.1100e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**1.0647**	**1.0647**	**6.0000e-005**	**0.0000**	**1.0659**

3.4 Trenching - 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					
Off-Road	0.0119	0.1112	0.0731	9.0000e-005		8.5000e-003	8.5000e-003		7.8200e-003	7.8200e-003	0.0000	8.9513	8.9513	2.6700e-003	0.0000	9.0074
Total	**0.0119**	**0.1112**	**0.0731**	**9.0000e-005**		**8.5000e-003**	**8.5000e-003**		**7.8200e-003**	**7.8200e-003**	**0.0000**	**8.9513**	**8.9513**	**2.6700e-003**	**0.0000**	**9.0074**

3.4 Trenching - 2015

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	0.0000	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	2.5000e-004	3.6000e-004	3.7400e-003	1.0000e-005	6.0000e-004	1.0000e-005	6.1000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5856	0.5856	3.0000e-005	0.0000	0.5863
Total	**2.5000e-004**	**3.6000e-004**	**3.7400e-003**	**1.0000e-005**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5856**	**0.5856**	**3.0000e-005**	**0.0000**	**0.5863**

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					
Off-Road	0.0119	0.1112	0.0731	9.0000e-005		8.5000e-003	8.5000e-003		7.8200e-003	7.8200e-003	0.0000	8.9513	8.9513	2.6700e-003	0.0000	9.0074
Total	**0.0119**	**0.1112**	**0.0731**	**9.0000e-005**		**8.5000e-003**	**8.5000e-003**		**7.8200e-003**	**7.8200e-003**	**0.0000**	**8.9513**	**8.9513**	**2.6700e-003**	**0.0000**	**9.0074**

3.4 Trenching - 2015

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	0.0000	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	2.5000e-004	3.6000e-004	3.7400e-003	1.0000e-005	6.0000e-004	1.0000e-005	6.1000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5856	0.5856	3.0000e-005	0.0000	0.5863
Total	**2.5000e-004**	**3.6000e-004**	**3.7400e-003**	**1.0000e-005**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5856**	**0.5856**	**3.0000e-005**	**0.0000**	**0.5863**

3.5 Building Construction - 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					
Off-Road	0.0280	0.3101	0.1238	2.0000e-004		0.0164	0.0164		0.0151	0.0151	0.0000	19.4614	19.4614	5.8100e-003	0.0000	19.5834
Total	**0.0280**	**0.3101**	**0.1238**	**2.0000e-004**		**0.0164**	**0.0164**		**0.0151**	**0.0151**	**0.0000**	**19.4614**	**19.4614**	**5.8100e-003**	**0.0000**	**19.5834**

3.5 Building Construction - 2015

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	0.0000	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	9.5000e-004	9.7200e-003	0.0119	2.0000e-005	5.8000e-004	1.6000e-004	7.5000e-004	1.7000e-004	1.5000e-004	3.2000e-004	0.0000	1.8933	1.8933	2.0000e-005	0.0000	1.8936
Worker	1.2700e-003	1.8700e-003	0.0194	4.0000e-005	3.1300e-003	3.0000e-005	3.1500e-003	8.3000e-004	3.0000e-005	8.6000e-004	0.0000	3.0343	3.0343	1.7000e-004	0.0000	3.0379
Total	**2.2200e-003**	**0.0116**	**0.0313**	**6.0000e-005**	**3.7100e-003**	**1.9000e-004**	**3.9000e-003**	**1.0000e-003**	**1.8000e-004**	**1.1800e-003**	**0.0000**	**4.9276**	**4.9276**	**1.9000e-004**	**0.0000**	**4.9315**

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					
Off-Road	0.0280	0.3101	0.1238	2.0000e-004		0.0164	0.0164		0.0151	0.0151	0.0000	19.4614	19.4614	5.8100e-003	0.0000	19.5834
Total	**0.0280**	**0.3101**	**0.1238**	**2.0000e-004**		**0.0164**	**0.0164**		**0.0151**	**0.0151**	**0.0000**	**19.4614**	**19.4614**	**5.8100e-003**	**0.0000**	**19.5834**

3.5 Building Construction - 2015

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	0.0000	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	9.5000e-004	9.7200e-003	0.0119	2.0000e-005	5.8000e-004	1.6000e-004	7.5000e-004	1.7000e-004	1.5000e-004	3.2000e-004	0.0000	1.8933	1.8933	2.0000e-005	0.0000	1.8936
Worker	1.2700e-003	1.8700e-003	0.0194	4.0000e-005	3.1300e-003	3.0000e-005	3.1500e-003	8.3000e-004	3.0000e-005	8.6000e-004	0.0000	3.0343	3.0343	1.7000e-004	0.0000	3.0379
Total	**2.2200e-003**	**0.0116**	**0.0313**	**6.0000e-005**	**3.7100e-003**	**1.9000e-004**	**3.9000e-003**	**1.0000e-003**	**1.8000e-004**	**1.1800e-003**	**0.0000**	**4.9276**	**4.9276**	**1.9000e-004**	**0.0000**	**4.9315**

3.5 Building Construction - 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					
Off-Road	0.1619	1.7929	0.7264	1.2200e-003		0.0941	0.0941		0.0866	0.0866	0.0000	115.5641	115.5641	0.0349	0.0000	116.2961
Total	**0.1619**	**1.7929**	**0.7264**	**1.2200e-003**		**0.0941**	**0.0941**		**0.0866**	**0.0866**	**0.0000**	**115.5641**	**115.5641**	**0.0349**	**0.0000**	**116.2961**

3.5 Building Construction - 2016

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	0.0000	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	5.0600e-003	0.0515	0.0663	1.2000e-004	3.5100e-003	8.1000e-004	4.3200e-003	1.0000e-003	7.5000e-004	1.7500e-003	0.0000	11.2345	11.2345	8.0000e-005	0.0000	11.2362
Worker	6.8700e-003	0.0101	0.1049	2.3000e-004	0.0188	1.6000e-004	0.0189	4.9800e-003	1.5000e-004	5.1300e-003	0.0000	17.5767	17.5767	9.5000e-004	0.0000	17.5965
Total	**0.0119**	**0.0616**	**0.1713**	**3.5000e-004**	**0.0223**	**9.7000e-004**	**0.0232**	**5.9800e-003**	**9.0000e-004**	**6.8800e-003**	**0.0000**	**28.8111**	**28.8111**	**1.0300e-003**	**0.0000**	**28.8327**

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					
Off-Road	0.1619	1.7929	0.7264	1.2200e-003		0.0941	0.0941		0.0866	0.0866	0.0000	115.5639	115.5639	0.0349	0.0000	116.2960
Total	**0.1619**	**1.7929**	**0.7264**	**1.2200e-003**		**0.0941**	**0.0941**		**0.0866**	**0.0866**	**0.0000**	**115.5639**	**115.5639**	**0.0349**	**0.0000**	**116.2960**

3.5 Building Construction - 2016

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	0.0000	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	5.0600e-003	0.0515	0.0663	1.2000e-004	3.5100e-003	8.1000e-004	4.3200e-003	1.0000e-003	7.5000e-004	1.7500e-003	0.0000	11.2345	11.2345	8.0000e-005	0.0000	11.2362
Worker	6.8700e-003	0.0101	0.1049	2.3000e-004	0.0188	1.6000e-004	0.0189	4.9800e-003	1.5000e-004	5.1300e-003	0.0000	17.5767	17.5767	9.5000e-004	0.0000	17.5965
Total	**0.0119**	**0.0616**	**0.1713**	**3.5000e-004**	**0.0223**	**9.7000e-004**	**0.0232**	**5.9800e-003**	**9.0000e-004**	**6.8800e-003**	**0.0000**	**28.8111**	**28.8111**	**1.0300e-003**	**0.0000**	**28.8327**

3.6 Paving - 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					
Off-Road	2.1800e-003	0.0204	0.0134	2.0000e-005		1.5600e-003	1.5600e-003		1.4300e-003	1.4300e-003	0.0000	1.6406	1.6406	4.9000e-004	0.0000	1.6509
Paving	3.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5200e-003**	**0.0204**	**0.0134**	**2.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.6406**	**1.6406**	**4.9000e-004**	**0.0000**	**1.6509**

3.6 Paving - 2015

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	0.0000	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	4.0000e-005	7.0000e-005	6.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1065	0.1065	1.0000e-005	0.0000	0.1066
Total	**4.0000e-005**	**7.0000e-005**	**6.8000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1065**	**0.1065**	**1.0000e-005**	**0.0000**	**0.1066**

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					
Off-Road	2.1800e-003	0.0204	0.0134	2.0000e-005		1.5600e-003	1.5600e-003		1.4300e-003	1.4300e-003	0.0000	1.6406	1.6406	4.9000e-004	0.0000	1.6509
Paving	3.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5200e-003**	**0.0204**	**0.0134**	**2.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.6406**	**1.6406**	**4.9000e-004**	**0.0000**	**1.6509**

3.6 Paving - 2015

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	0.0000	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	4.0000e-005	7.0000e-005	6.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1065	0.1065	1.0000e-005	0.0000	0.1066
Total	**4.0000e-005**	**7.0000e-005**	**6.8000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1065**	**0.1065**	**1.0000e-005**	**0.0000**	**0.1066**

3.7 Architectural Coating - 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					
Archit. Coating	0.3304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0162	0.1044	0.0829	1.3000e-004		8.6500e-003	8.6500e-003		8.6500e-003	8.6500e-003	0.0000	11.2343	11.2343	1.3200e-003	0.0000	11.2621
Total	**0.3466**	**0.1044**	**0.0829**	**1.3000e-004**		**8.6500e-003**	**8.6500e-003**		**8.6500e-003**	**8.6500e-003**	**0.0000**	**11.2343**	**11.2343**	**1.3200e-003**	**0.0000**	**11.2621**

3.7 Architectural Coating - 2016

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	0.0000	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	2.7000e-004	3.9000e-004	4.0500e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6784	0.6784	4.0000e-005	0.0000	0.6792
Total	**2.7000e-004**	**3.9000e-004**	**4.0500e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6784**	**0.6784**	**4.0000e-005**	**0.0000**	**0.6792**

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					
Archit. Coating	0.3304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0162	0.1044	0.0829	1.3000e-004		8.6500e-003	8.6500e-003		8.6500e-003	8.6500e-003	0.0000	11.2343	11.2343	1.3200e-003	0.0000	11.2621
Total	**0.3466**	**0.1044**	**0.0829**	**1.3000e-004**		**8.6500e-003**	**8.6500e-003**		**8.6500e-003**	**8.6500e-003**	**0.0000**	**11.2343**	**11.2343**	**1.3200e-003**	**0.0000**	**11.2621**

3.7 Architectural Coating - 2016

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	0.0000	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	2.7000e-004	3.9000e-004	4.0500e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6784	0.6784	4.0000e-005	0.0000	0.6792
Total	**2.7000e-004**	**3.9000e-004**	**4.0500e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6784**	**0.6784**	**4.0000e-005**	**0.0000**	**0.6792**

4.0 Operational Detail - Mobile

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	0.1481	0.1757	1.7724	4.4200e-003	0.3396	2.5200e-003	0.3422	0.0902	2.3300e-003	0.0925	0.0000	327.8345	327.8345	0.0157	0.0000	328.1636
Unmitigated	0.1481	0.1757	1.7724	4.4200e-003	0.3396	2.5200e-003	0.3422	0.0902	2.3300e-003	0.0925	0.0000	327.8345	327.8345	0.0157	0.0000	328.1636

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	266.56	266.56	266.56	910,876	910,876
Total	266.56	266.56	266.56	910,876	910,876

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.570233	0.066995	0.200695	0.154865	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.004850	0.000000	0.002363

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

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						0.0000	0.0000		0.0000	0.0000	0.0000	56.8072	56.8072	2.6100e-003	5.4000e-004	57.0295
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	56.8072	56.8072	2.6100e-003	5.4000e-004	57.0295
NaturalGas Mitigated	4.3600e-003	0.0373	0.0159	2.4000e-004		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	43.1573	43.1573	8.3000e-004	7.9000e-004	43.4200
NaturalGas Unmitigated	4.3600e-003	0.0373	0.0159	2.4000e-004		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	43.1573	43.1573	8.3000e-004	7.9000e-004	43.4200

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/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	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
Single Family Housing	808738	4.3600e-003	0.0373	0.0159	2.4000e-004		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	43.1573	43.1573	8.3000e-004	7.9000e-004	43.4200
Total		**4.3600e-003**	**0.0373**	**0.0159**	**2.4000e-004**		**3.0100e-003**	**3.0100e-003**		**3.0100e-003**	**3.0100e-003**	**0.0000**	**43.1573**	**43.1573**	**8.3000e-004**	**7.9000e-004**	**43.4200**

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/yr	tons/yr										MT/yr					
Single Family Housing	808738	4.3600e-003	0.0373	0.0159	2.4000e-004		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	43.1573	43.1573	8.3000e-004	7.9000e-004	43.4200
Other Asphalt Surfaces	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
Total		**4.3600e-003**	**0.0373**	**0.0159**	**2.4000e-004**		**3.0100e-003**	**3.0100e-003**		**3.0100e-003**	**3.0100e-003**	**0.0000**	**43.1573**	**43.1573**	**8.3000e-004**	**7.9000e-004**	**43.4200**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	198511	56.8072	2.6100e-003	5.4000e-004	57.0295
Total		**56.8072**	**2.6100e-003**	**5.4000e-004**	**57.0295**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	198511	56.8072	2.6100e-003	5.4000e-004	57.0295
Total		**56.8072**	**2.6100e-003**	**5.4000e-004**	**57.0295**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2664	3.4000e-003	0.2917	2.0000e-005		2.0100e-003	2.0100e-003		2.0000e-003	2.0000e-003	0.0000	6.5231	6.5231	5.9000e-004	1.1000e-004	6.5699
Unmitigated	0.3575	5.7300e-003	0.4676	3.0000e-004		0.0283	0.0283		0.0283	0.0283	2.9741	6.1870	9.1611	9.3400e-003	2.0000e-004	9.4199

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	0.0330					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0917	2.3300e-003	0.1759	2.8000e-004		0.0267	0.0267		0.0267	0.0267	2.9741	5.7153	8.6894	8.8700e-003	2.0000e-004	8.9382
Landscaping	9.0800e-003	3.4000e-003	0.2917	2.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	0.4717	0.4717	4.7000e-004	0.0000	0.4816
Total	**0.3575**	**5.7300e-003**	**0.4676**	**3.0000e-004**		**0.0283**	**0.0283**		**0.0283**	**0.0283**	**2.9741**	**6.1869**	**9.1611**	**9.3400e-003**	**2.0000e-004**	**9.4199**

6.2 Area by SubCategory

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	0.0330					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.1000e-004	0.0000	3.0000e-005	0.0000		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	6.0515	6.0515	1.2000e-004	1.1000e-004	6.0883
Landscaping	9.0800e-003	3.4000e-003	0.2917	2.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	0.4717	0.4717	4.7000e-004	0.0000	0.4816
Total	**0.2664**	**3.4000e-003**	**0.2917**	**2.0000e-005**		**2.0000e-003**	**2.0000e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**6.5231**	**6.5231**	**5.9000e-004**	**1.1000e-004**	**6.5699**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.0331	0.0599	1.5000e-003	12.7565
Unmitigated	11.0331	0.0599	1.5000e-003	12.7574

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.82431 / 1.15011	11.0331	0.0599	1.5000e-003	12.7574
Total		**11.0331**	**0.0599**	**1.5000e-003**	**12.7574**

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.82431 / 1.15011	11.0331	0.0599	1.5000e-003	12.7565
Total		**11.0331**	**0.0599**	**1.5000e-003**	**12.7565**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.6581	0.3935	0.0000	14.9212
Unmitigated	6.6581	0.3935	0.0000	14.9212

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	32.8	6.6581	0.3935	0.0000	14.9212
Total		**6.6581**	**0.3935**	**0.0000**	**14.9212**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	32.8	6.6581	0.3935	0.0000	14.9212
Total		**6.6581**	**0.3935**	**0.0000**	**14.9212**

9.0 Operational Offroad

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

10.0 Vegetation

Trumark Homes

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.26	Acre	0.26	11,499.84	0
Single Family Housing	28.00	Dwelling Unit	2.04	50,400.00	80

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Area was provided by Trumark Homes.

Construction Phase - Construction data provided by Trumark Homes.

Off-road Equipment - Work hours per day was provided.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Demolition - Construction data provided by Trumark Homes.

Grading - Construction data provided by Trumark Homes.

Vehicle Trips - Trip generation rate based on Traffic Study

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Woodstoves - Compliance with SCAQMD Rule.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	220.00	266.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	6.00	40.00
tblConstructionPhase	NumDays	10.00	4.00
tblConstructionPhase	PhaseEndDate	1/14/2016	11/15/2016
tblConstructionPhase	PhaseEndDate	11/7/2016	11/15/2016

tblConstructionPhase	PhaseEndDate	9/24/2015	9/25/2015
tblConstructionPhase	PhaseEndDate	11/21/2016	11/15/2015
tblConstructionPhase	PhaseEndDate	10/27/2015	11/1/2015
tblConstructionPhase	PhaseStartDate	11/16/2015	9/15/2016
tblConstructionPhase	PhaseStartDate	11/2/2015	11/10/2015
tblConstructionPhase	PhaseStartDate	7/31/2015	8/1/2015
tblConstructionPhase	PhaseStartDate	11/16/2016	11/10/2015
tblConstructionPhase	PhaseStartDate	9/26/2015	10/1/2015
tblGrading	AcresOfGrading	0.00	2.00
tblLandUse	LandUseSquareFeet	11,325.60	11,499.84
tblLandUse	LotAcreage	9.09	2.04
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00

tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	MCY	4.3560e-003	4.8500e-003

tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	SU_TR	8.77	9.52
tblVehicleTrips	WD_TR	9.57	9.52

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					
2015	3.6936	36.4230	27.9268	0.0334	9.1420	2.0289	10.5524	4.9859	1.9131	6.2834	0.0000	3,374.1717	3,374.1717	0.6696	0.0000	3,388.2330
2016	17.2961	21.0176	11.8155	0.0202	0.2325	1.2278	1.4602	0.0623	1.1610	1.2233	0.0000	1,989.2601	1,989.2601	0.4152	0.0000	1,997.9794
Total	**20.9897**	**57.4406**	**39.7423**	**0.0535**	**9.3745**	**3.2566**	**12.0126**	**5.0482**	**3.0741**	**7.5067**	**0.0000**	**5,363.4318**	**5,363.4318**	**1.0848**	**0.0000**	**5,386.2124**

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					
2015	3.6936	36.4230	27.9268	0.0334	3.5995	2.0289	5.0098	1.9535	1.9131	3.2510	0.0000	3,374.1717	3,374.1717	0.6696	0.0000	3,388.2330
2016	17.2961	21.0176	11.8155	0.0202	0.2325	1.2278	1.4602	0.0623	1.1610	1.2233	0.0000	1,989.2601	1,989.2601	0.4152	0.0000	1,997.9794
Total	**20.9897**	**57.4406**	**39.7423**	**0.0535**	**3.8319**	**3.2566**	**6.4700**	**2.0158**	**3.0741**	**4.4743**	**0.0000**	**5,363.4317**	**5,363.4317**	**1.0848**	**0.0000**	**5,386.2124**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**59.12**	**0.00**	**46.14**	**60.07**	**0.00**	**40.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	8.8163	0.2134	16.4073	0.0225		2.1515	2.1515		2.1512	2.1512	262.2737	508.1595	770.4332	0.7863	0.0178	792.4645
Energy	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
Mobile	0.8605	0.9403	9.5518	0.0239	1.9013	0.0139	1.9152	0.5040	0.0128	0.5168		1,957.7684	1,957.7684	0.0950		1,959.7640
Total	**9.7007**	**1.3578**	**26.0460**	**0.0477**	**1.9013**	**2.1819**	**4.0832**	**0.5040**	**2.1805**	**2.6846**	**262.2737**	**2,726.6009**	**2,988.8746**	**0.8864**	**0.0226**	**3,014.4879**

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	1.5282	0.0272	2.3360	1.2000e-004		0.0465	0.0465		0.0461	0.0461	0.0000	537.8066	537.8066	0.0144	9.7800e-003	541.1419
Energy	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
Mobile	0.8605	0.9403	9.5518	0.0239	1.9013	0.0139	1.9152	0.5040	0.0128	0.5168		1,957.7684	1,957.7684	0.0950		1,959.7640
Total	**2.4126**	**1.1717**	**11.9747**	**0.0254**	**1.9013**	**0.0769**	**1.9782**	**0.5040**	**0.0754**	**0.5795**	**0.0000**	**2,756.2480**	**2,756.2480**	**0.1144**	**0.0146**	**2,763.1654**

	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	N20	CO2e
Percent Reduction	**75.13**	**13.71**	**54.02**	**46.90**	**0.00**	**96.48**	**51.55**	**0.00**	**96.54**	**78.42**	**100.00**	**-1.09**	**7.78**	**87.09**	**35.52**	**8.34**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/15/2015	7/30/2015	5	34	
2	Grading	Grading	8/1/2015	9/25/2015	5	40	
3	Trenching	Trenching	10/1/2015	11/1/2015	5	22	
4	Building Construction	Building Construction	11/10/2015	11/15/2016	5	266	
5	Paving	Paving	11/10/2015	11/15/2015	5	4	
6	Architectural Coating	Architectural Coating	9/15/2016	11/15/2016	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 102,060; Residential Outdoor: 34,020; Non-Residential Indoor: 17,250; Non-Residential Outdoor: 5,750 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	12.00	81	0.73
Demolition	Rubber Tired Dozers	1	12.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	1	12.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Building Construction	Cranes	1	12.00	226	0.29
Building Construction	Forklifts	1	12.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	0	8.00	9	0.56
Paving	Pavers	0	8.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	1	12.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Architectural Coating	Air Compressors	1	12.00	78	0.48
Trenching	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Trenching	Rollers	1	12.00	80	0.38

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
Demolition	3	8.00	0.00	227.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	15.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 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					1.4476	0.0000	1.4476	0.2192	0.0000	0.2192			0.0000			0.0000
Off-Road	3.5187	34.2203	25.8081	0.0274		1.9918	1.9918		1.8790	1.8790		2,781.1269	2,781.1269	0.6603		2,794.9932
Total	**3.5187**	**34.2203**	**25.8081**	**0.0274**	**1.4476**	**1.9918**	**3.4393**	**0.2192**	**1.8790**	**2.0981**		**2,781.1269**	**2,781.1269**	**0.6603**		**2,794.9932**

3.2 Demolition - 2015

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	0.1370	2.1519	1.5878	4.9200e-003	0.1163	0.0363	0.1526	0.0319	0.0334	0.0653		500.5919	500.5919	3.9800e-003		500.6755
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
Worker	0.0379	0.0509	0.5309	1.0600e-003	0.0894	7.9000e-004	0.0902	0.0237	7.2000e-004	0.0244		92.4529	92.4529	5.3100e-003		92.5643
Total	**0.1749**	**2.2027**	**2.1187**	**5.9800e-003**	**0.2057**	**0.0371**	**0.2428**	**0.0556**	**0.0341**	**0.0897**		**593.0448**	**593.0448**	**9.2900e-003**		**593.2398**

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					0.5646	0.0000	0.5646	0.0855	0.0000	0.0855			0.0000			0.0000
Off-Road	3.5187	34.2203	25.8081	0.0274		1.9918	1.9918		1.8790	1.8790	0.0000	2,781.1269	2,781.1269	0.6603		2,794.9932
Total	**3.5187**	**34.2203**	**25.8081**	**0.0274**	**0.5646**	**1.9918**	**2.5563**	**0.0855**	**1.8790**	**1.9644**	**0.0000**	**2,781.1269**	**2,781.1269**	**0.6603**		**2,794.9932**

3.2 Demolition - 2015

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	0.1370	2.1519	1.5878	4.9200e-003	0.1163	0.0363	0.1526	0.0319	0.0334	0.0653		500.5919	500.5919	3.9800e-003		500.6755
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
Worker	0.0379	0.0509	0.5309	1.0600e-003	0.0894	7.9000e-004	0.0902	0.0237	7.2000e-004	0.0244		92.4529	92.4529	5.3100e-003		92.5643
Total	**0.1749**	**2.2027**	**2.1187**	**5.9800e-003**	**0.2057**	**0.0371**	**0.2428**	**0.0556**	**0.0341**	**0.0897**		**593.0448**	**593.0448**	**9.2900e-003**		**593.2398**

3.3 Grading - 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					9.0862	0.0000	9.0862	4.9711	0.0000	4.9711			0.0000			0.0000
Off-Road	2.4503	26.7288	20.1031	0.0180		1.4098	1.4098		1.2970	1.2970		1,892.1284	1,892.1284	0.5649		1,903.9908
Total	**2.4503**	**26.7288**	**20.1031**	**0.0180**	**9.0862**	**1.4098**	**10.4960**	**4.9711**	**1.2970**	**6.2681**		**1,892.1284**	**1,892.1284**	**0.5649**		**1,903.9908**

3.3 Grading - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

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					3.5436	0.0000	3.5436	1.9387	0.0000	1.9387			0.0000			0.0000
Off-Road	2.4503	26.7288	20.1031	0.0180		1.4098	1.4098		1.2970	1.2970	0.0000	1,892.1284	1,892.1284	0.5649		1,903.9908
Total	**2.4503**	**26.7288**	**20.1031**	**0.0180**	**3.5436**	**1.4098**	**4.9534**	**1.9387**	**1.2970**	**3.2358**	**0.0000**	**1,892.1284**	**1,892.1284**	**0.5649**		**1,903.9908**

3.3 Grading - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

3.4 Trenching - 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					
Off-Road	1.0810	10.1075	6.6483	8.5400e-003		0.7725	0.7725		0.7107	0.7107		897.0080	897.0080	0.2678		902.6317
Total	**1.0810**	**10.1075**	**6.6483**	**8.5400e-003**		**0.7725**	**0.7725**		**0.7107**	**0.7107**		**897.0080**	**897.0080**	**0.2678**		**902.6317**

3.4 Trenching - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

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					
Off-Road	1.0810	10.1075	6.6483	8.5400e-003		0.7725	0.7725		0.7107	0.7107	0.0000	897.0080	897.0080	0.2678		902.6317
Total	**1.0810**	**10.1075**	**6.6483**	**8.5400e-003**		**0.7725**	**0.7725**		**0.7107**	**0.7107**	**0.0000**	**897.0080**	**897.0080**	**0.2678**		**902.6317**

3.4 Trenching - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

3.5 Building Construction - 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					
Off-Road	1.4753	16.3234	6.5141	0.0107		0.8644	0.8644		0.7953	0.7953		1,129.0802	1,129.0802	0.3371		1,136.1588
Total	**1.4753**	**16.3234**	**6.5141**	**0.0107**		**0.8644**	**0.8644**		**0.7953**	**0.7953**		**1,129.0802**	**1,129.0802**	**0.3371**		**1,136.1588**

3.5 Building Construction - 2015

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	0.0000	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	0.0517	0.5016	0.6419	1.0800e-003	0.0312	8.6500e-003	0.0399	8.9000e-003	7.9600e-003	0.0169		109.3084	109.3084	8.9000e-004		109.3270
Worker	0.0710	0.0954	0.9954	1.9900e-003	0.1677	1.4800e-003	0.1691	0.0445	1.3500e-003	0.0458		173.3491	173.3491	9.9500e-003		173.5581
Total	**0.1228**	**0.5970**	**1.6373**	**3.0700e-003**	**0.1989**	**0.0101**	**0.2090**	**0.0534**	**9.3100e-003**	**0.0627**		**282.6576**	**282.6576**	**0.0108**		**282.8851**

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					
Off-Road	1.4753	16.3234	6.5141	0.0107		0.8644	0.8644		0.7953	0.7953	0.0000	1,129.0802	1,129.0802	0.3371		1,136.1588
Total	**1.4753**	**16.3234**	**6.5141**	**0.0107**		**0.8644**	**0.8644**		**0.7953**	**0.7953**	**0.0000**	**1,129.0802**	**1,129.0802**	**0.3371**		**1,136.1588**

3.5 Building Construction - 2015

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	0.0000	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	0.0517	0.5016	0.6419	1.0800e-003	0.0312	8.6500e-003	0.0399	8.9000e-003	7.9600e-003	0.0169		109.3084	109.3084	8.9000e-004		109.3270
Worker	0.0710	0.0954	0.9954	1.9900e-003	0.1677	1.4800e-003	0.1691	0.0445	1.3500e-003	0.0458		173.3491	173.3491	9.9500e-003		173.5581
Total	**0.1228**	**0.5970**	**1.6373**	**3.0700e-003**	**0.1989**	**0.0101**	**0.2090**	**0.0534**	**9.3100e-003**	**0.0627**		**282.6576**	**282.6576**	**0.0108**		**282.8851**

3.5 Building Construction - 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					
Off-Road	1.4204	15.7273	6.3718	0.0107		0.8257	0.8257		0.7596	0.7596		1,117.4350	1,117.4350	0.3371		1,124.5133
Total	**1.4204**	**15.7273**	**6.3718**	**0.0107**		**0.8257**	**0.8257**		**0.7596**	**0.7596**		**1,117.4350**	**1,117.4350**	**0.3371**		**1,124.5133**

3.5 Building Construction - 2016

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	0.0000	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	0.0456	0.4427	0.5978	1.0800e-003	0.0313	7.1800e-003	0.0384	8.9000e-003	6.6100e-003	0.0155		108.1002	108.1002	8.0000e-004		108.1170
Worker	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495
Total	**0.1096**	**0.5287**	**1.4962**	**3.0700e-003**	**0.1989**	**8.5800e-003**	**0.2075**	**0.0534**	**7.9000e-003**	**0.0613**		**275.4575**	**275.4575**	**9.9500e-003**		**275.6666**

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					
Off-Road	1.4204	15.7273	6.3718	0.0107		0.8257	0.8257		0.7596	0.7596	0.0000	1,117.4350	1,117.4350	0.3371		1,124.5133
Total	**1.4204**	**15.7273**	**6.3718**	**0.0107**		**0.8257**	**0.8257**		**0.7596**	**0.7596**	**0.0000**	**1,117.4350**	**1,117.4350**	**0.3371**		**1,124.5133**

3.5 Building Construction - 2016

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	0.0000	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	0.0456	0.4427	0.5978	1.0800e-003	0.0313	7.1800e-003	0.0384	8.9000e-003	6.6100e-003	0.0155		108.1002	108.1002	8.0000e-004		108.1170
Worker	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495
Total	**0.1096**	**0.5287**	**1.4962**	**3.0700e-003**	**0.1989**	**8.5800e-003**	**0.2075**	**0.0534**	**7.9000e-003**	**0.0613**		**275.4575**	**275.4575**	**9.9500e-003**		**275.6666**

3.6 Paving - 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					
Off-Road	1.0901	10.1921	6.7017	8.6000e-003		0.7788	0.7788		0.7165	0.7165		904.2161	904.2161	0.2700		909.8850
Paving	0.1703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2604**	**10.1921**	**6.7017**	**8.6000e-003**		**0.7788**	**0.7788**		**0.7165**	**0.7165**		**904.2161**	**904.2161**	**0.2700**		**909.8850**

3.6 Paving - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

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					
Off-Road	1.0901	10.1921	6.7017	8.6000e-003		0.7788	0.7788		0.7165	0.7165	0.0000	904.2161	904.2161	0.2700		909.8850
Paving	0.1703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2604**	**10.1921**	**6.7017**	**8.6000e-003**		**0.7788**	**0.7788**		**0.7165**	**0.7165**	**0.0000**	**904.2161**	**904.2161**	**0.2700**		**909.8850**

3.6 Paving - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

3.7 Architectural Coating - 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					
Archit. Coating	15.0164					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7369	4.7445	3.7678	5.9400e-003		0.3932	0.3932		0.3932	0.3932		562.8961	562.8961	0.0664		564.2897
Total	**15.7533**	**4.7445**	**3.7678**	**5.9400e-003**		**0.3932**	**0.3932**		**0.3932**	**0.3932**		**562.8961**	**562.8961**	**0.0664**		**564.2897**

3.7 Architectural Coating - 2016

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	0.0000	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
Worker	0.0128	0.0172	0.1797	4.0000e-004	0.0335	2.8000e-004	0.0338	8.8900e-003	2.6000e-004	9.1500e-003		33.4715	33.4715	1.8300e-003		33.5099
Total	**0.0128**	**0.0172**	**0.1797**	**4.0000e-004**	**0.0335**	**2.8000e-004**	**0.0338**	**8.8900e-003**	**2.6000e-004**	**9.1500e-003**		**33.4715**	**33.4715**	**1.8300e-003**		**33.5099**

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					
Archit. Coating	15.0164					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7369	4.7445	3.7678	5.9400e-003		0.3932	0.3932		0.3932	0.3932	0.0000	562.8961	562.8961	0.0664		564.2897
Total	**15.7533**	**4.7445**	**3.7678**	**5.9400e-003**		**0.3932**	**0.3932**		**0.3932**	**0.3932**	**0.0000**	**562.8961**	**562.8961**	**0.0664**		**564.2897**

3.7 Architectural Coating - 2016

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	0.0000	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
Worker	0.0128	0.0172	0.1797	4.0000e-004	0.0335	2.8000e-004	0.0338	8.8900e-003	2.6000e-004	9.1500e-003		33.4715	33.4715	1.8300e-003		33.5099
Total	**0.0128**	**0.0172**	**0.1797**	**4.0000e-004**	**0.0335**	**2.8000e-004**	**0.0338**	**8.8900e-003**	**2.6000e-004**	**9.1500e-003**		**33.4715**	**33.4715**	**1.8300e-003**		**33.5099**

4.0 Operational Detail - Mobile

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	0.8605	0.9403	9.5518	0.0239	1.9013	0.0139	1.9152	0.5040	0.0128	0.5168		1,957.7684	1,957.7684	0.0950		1,959.7640
Unmitigated	0.8605	0.9403	9.5518	0.0239	1.9013	0.0139	1.9152	0.5040	0.0128	0.5168		1,957.7684	1,957.7684	0.0950		1,959.7640

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	266.56	266.56	266.56	910,876	910,876
Total	266.56	266.56	266.56	910,876	910,876

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.570233	0.066995	0.200695	0.154865	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.004850	0.000000	0.002363

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

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	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
NaturalGas Unmitigated	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594

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/yr	lb/day										lb/day					
Other Asphalt Surfaces	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
Single Family Housing	2215.72	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
Total		**0.0239**	**0.2042**	**0.0869**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**		**260.6730**	**260.6730**	**5.0000e-003**	**4.7800e-003**	**262.2594**

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/yr	lb/day										lb/day					
Single Family Housing	2.21572	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
Other Asphalt Surfaces	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
Total		**0.0239**	**0.2042**	**0.0869**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**		**260.6730**	**260.6730**	**5.0000e-003**	**4.7800e-003**	**262.2594**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5282	0.0272	2.3360	1.2000e-004		0.0465	0.0465		0.0461	0.0461	0.0000	537.8066	537.8066	0.0144	9.7800e-003	541.1419
Unmitigated	8.8163	0.2134	16.4073	0.0225		2.1515	2.1515		2.1512	2.1512	262.2737	508.1595	770.4332	0.7863	0.0178	792.4645

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	0.1810					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2256					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	7.3370	0.1862	14.0740	0.0224		2.1389	2.1389		2.1385	2.1385	262.2737	504.0000	766.2737	0.7822	0.0178	788.2173
Landscaping	0.0727	0.0272	2.3333	1.2000e-004		0.0127	0.0127		0.0127	0.0127		4.1595	4.1595	4.1700e-003		4.2472
Total	**8.8163**	**0.2134**	**16.4073**	**0.0225**		**2.1515**	**2.1515**		**2.1512**	**2.1512**	**262.2737**	**508.1595**	**770.4332**	**0.7863**	**0.0178**	**792.4645**

6.2 Area by SubCategory

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	0.1810					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2256					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0489	0.0000	2.6700e-003	0.0000		0.0338	0.0338		0.0334	0.0334	0.0000	533.6471	533.6471	0.0102	9.7800e-003	536.8948
Landscaping	0.0727	0.0272	2.3333	1.2000e-004		0.0127	0.0127		0.0127	0.0127		4.1595	4.1595	4.1700e-003		4.2472
Total	**1.5282**	**0.0272**	**2.3360**	**1.2000e-004**		**0.0465**	**0.0465**		**0.0461**	**0.0461**	**0.0000**	**537.8066**	**537.8066**	**0.0144**	**9.7800e-003**	**541.1420**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Trumark Homes

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.26	Acre	0.26	11,499.84	0
Single Family Housing	28.00	Dwelling Unit	2.04	50,400.00	80

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Area was provided by Trumark Homes.

Construction Phase - Construction data provided by Trumark Homes.

Off-road Equipment - Work hours per day was provided.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Off-road Equipment - Construction data provided by Trumark Homes.

Demolition - Construction data provided by Trumark Homes.

Grading - Construction data provided by Trumark Homes.

Vehicle Trips - Trip generation rate based on Traffic Study

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Vechicle Emission Factors - Normalized values.

Woodstoves - Compliance with SCAQMD Rule.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	220.00	266.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	6.00	40.00
tblConstructionPhase	NumDays	10.00	4.00
tblConstructionPhase	PhaseEndDate	1/14/2016	11/15/2016
tblConstructionPhase	PhaseEndDate	11/7/2016	11/15/2016

tblConstructionPhase	PhaseEndDate	9/24/2015	9/25/2015
tblConstructionPhase	PhaseEndDate	11/21/2016	11/15/2015
tblConstructionPhase	PhaseEndDate	10/27/2015	11/1/2015
tblConstructionPhase	PhaseStartDate	11/16/2015	9/15/2016
tblConstructionPhase	PhaseStartDate	11/2/2015	11/10/2015
tblConstructionPhase	PhaseStartDate	7/31/2015	8/1/2015
tblConstructionPhase	PhaseStartDate	11/16/2016	11/10/2015
tblConstructionPhase	PhaseStartDate	9/26/2015	10/1/2015
tblGrading	AcresOfGrading	0.00	2.00
tblLandUse	LandUseSquareFeet	11,325.60	11,499.84
tblLandUse	LotAcreage	9.09	2.04
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00

tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	HHD	0.03	0.00
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDA	0.51	0.57
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD1	0.04	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	LHD2	6.6640e-003	0.00
tblVehicleEF	MCY	4.3560e-003	4.8500e-003

tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MCY	4.3560e-003	4.8500e-003
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MDV	0.14	0.15
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MH	2.1220e-003	2.3630e-003
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	SBUS	5.9200e-004	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleEF	UBUS	2.4970e-003	0.00
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	SU_TR	8.77	9.52
tblVehicleTrips	WD_TR	9.57	9.52

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					
2015	3.6936	36.4230	27.9268	0.0334	9.1420	2.0289	10.5524	4.9859	1.9131	6.2834	0.0000	3,374.1717	3,374.1717	0.6696	0.0000	3,388.2330
2016	17.2961	21.0176	11.8155	0.0202	0.2325	1.2278	1.4602	0.0623	1.1610	1.2233	0.0000	1,989.2601	1,989.2601	0.4152	0.0000	1,997.9794
Total	**20.9897**	**57.4406**	**39.7423**	**0.0535**	**9.3745**	**3.2566**	**12.0126**	**5.0482**	**3.0741**	**7.5067**	**0.0000**	**5,363.4318**	**5,363.4318**	**1.0848**	**0.0000**	**5,386.2124**

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					
2015	3.6936	36.4230	27.9268	0.0334	3.5995	2.0289	5.0098	1.9535	1.9131	3.2510	0.0000	3,374.1717	3,374.1717	0.6696	0.0000	3,388.2330
2016	17.2961	21.0176	11.8155	0.0202	0.2325	1.2278	1.4602	0.0623	1.1610	1.2233	0.0000	1,989.2601	1,989.2601	0.4152	0.0000	1,997.9794
Total	**20.9897**	**57.4406**	**39.7423**	**0.0535**	**3.8319**	**3.2566**	**6.4700**	**2.0158**	**3.0741**	**4.4743**	**0.0000**	**5,363.4317**	**5,363.4317**	**1.0848**	**0.0000**	**5,386.2124**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**59.12**	**0.00**	**46.14**	**60.07**	**0.00**	**40.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	8.8163	0.2134	16.4073	0.0225		2.1515	2.1515		2.1512	2.1512	262.2737	508.1595	770.4332	0.7863	0.0178	792.4645
Energy	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
Mobile	0.8605	0.9403	9.5518	0.0239	1.9013	0.0139	1.9152	0.5040	0.0128	0.5168		1,957.7684	1,957.7684	0.0950		1,959.7640
Total	**9.7007**	**1.3578**	**26.0460**	**0.0477**	**1.9013**	**2.1819**	**4.0832**	**0.5040**	**2.1805**	**2.6846**	**262.2737**	**2,726.6009**	**2,988.8746**	**0.8864**	**0.0226**	**3,014.4879**

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	1.5282	0.0272	2.3360	1.2000e-004		0.0465	0.0465		0.0461	0.0461	0.0000	537.8066	537.8066	0.0144	9.7800e-003	541.1419
Energy	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
Mobile	0.8605	0.9403	9.5518	0.0239	1.9013	0.0139	1.9152	0.5040	0.0128	0.5168		1,957.7684	1,957.7684	0.0950		1,959.7640
Total	**2.4126**	**1.1717**	**11.9747**	**0.0254**	**1.9013**	**0.0769**	**1.9782**	**0.5040**	**0.0754**	**0.5795**	**0.0000**	**2,756.2480**	**2,756.2480**	**0.1144**	**0.0146**	**2,763.1654**

	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	N20	CO2e
Percent Reduction	**75.13**	**13.71**	**54.02**	**46.90**	**0.00**	**96.48**	**51.55**	**0.00**	**96.54**	**78.42**	**100.00**	**-1.09**	**7.78**	**87.09**	**35.52**	**8.34**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/15/2015	7/30/2015	5	34	
2	Grading	Grading	8/1/2015	9/25/2015	5	40	
3	Trenching	Trenching	10/1/2015	11/1/2015	5	22	
4	Building Construction	Building Construction	11/10/2015	11/15/2016	5	266	
5	Paving	Paving	11/10/2015	11/15/2015	5	4	
6	Architectural Coating	Architectural Coating	9/15/2016	11/15/2016	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 102,060; Residential Outdoor: 34,020; Non-Residential Indoor: 17,250; Non-Residential Outdoor: 5,750 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	12.00	81	0.73
Demolition	Rubber Tired Dozers	1	12.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	1	12.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Building Construction	Cranes	1	12.00	226	0.29
Building Construction	Forklifts	1	12.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	0	8.00	9	0.56
Paving	Pavers	0	8.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	1	12.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Architectural Coating	Air Compressors	1	12.00	78	0.48
Trenching	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Trenching	Rollers	1	12.00	80	0.38

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
Demolition	3	8.00	0.00	227.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	15.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 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					1.4476	0.0000	1.4476	0.2192	0.0000	0.2192			0.0000			0.0000
Off-Road	3.5187	34.2203	25.8081	0.0274		1.9918	1.9918		1.8790	1.8790		2,781.1269	2,781.1269	0.6603		2,794.9932
Total	**3.5187**	**34.2203**	**25.8081**	**0.0274**	**1.4476**	**1.9918**	**3.4393**	**0.2192**	**1.8790**	**2.0981**		**2,781.1269**	**2,781.1269**	**0.6603**		**2,794.9932**

3.2 Demolition - 2015

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	0.1370	2.1519	1.5878	4.9200e-003	0.1163	0.0363	0.1526	0.0319	0.0334	0.0653		500.5919	500.5919	3.9800e-003		500.6755
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
Worker	0.0379	0.0509	0.5309	1.0600e-003	0.0894	7.9000e-004	0.0902	0.0237	7.2000e-004	0.0244		92.4529	92.4529	5.3100e-003		92.5643
Total	**0.1749**	**2.2027**	**2.1187**	**5.9800e-003**	**0.2057**	**0.0371**	**0.2428**	**0.0556**	**0.0341**	**0.0897**		**593.0448**	**593.0448**	**9.2900e-003**		**593.2398**

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					0.5646	0.0000	0.5646	0.0855	0.0000	0.0855			0.0000			0.0000
Off-Road	3.5187	34.2203	25.8081	0.0274		1.9918	1.9918		1.8790	1.8790	0.0000	2,781.1269	2,781.1269	0.6603		2,794.9932
Total	**3.5187**	**34.2203**	**25.8081**	**0.0274**	**0.5646**	**1.9918**	**2.5563**	**0.0855**	**1.8790**	**1.9644**	**0.0000**	**2,781.1269**	**2,781.1269**	**0.6603**		**2,794.9932**

3.2 Demolition - 2015

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	0.1370	2.1519	1.5878	4.9200e-003	0.1163	0.0363	0.1526	0.0319	0.0334	0.0653		500.5919	500.5919	3.9800e-003		500.6755
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
Worker	0.0379	0.0509	0.5309	1.0600e-003	0.0894	7.9000e-004	0.0902	0.0237	7.2000e-004	0.0244		92.4529	92.4529	5.3100e-003		92.5643
Total	**0.1749**	**2.2027**	**2.1187**	**5.9800e-003**	**0.2057**	**0.0371**	**0.2428**	**0.0556**	**0.0341**	**0.0897**		**593.0448**	**593.0448**	**9.2900e-003**		**593.2398**

3.3 Grading - 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					9.0862	0.0000	9.0862	4.9711	0.0000	4.9711			0.0000			0.0000
Off-Road	2.4503	26.7288	20.1031	0.0180		1.4098	1.4098		1.2970	1.2970		1,892.1284	1,892.1284	0.5649		1,903.9908
Total	**2.4503**	**26.7288**	**20.1031**	**0.0180**	**9.0862**	**1.4098**	**10.4960**	**4.9711**	**1.2970**	**6.2681**		**1,892.1284**	**1,892.1284**	**0.5649**		**1,903.9908**

3.3 Grading - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

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					3.5436	0.0000	3.5436	1.9387	0.0000	1.9387			0.0000			0.0000
Off-Road	2.4503	26.7288	20.1031	0.0180		1.4098	1.4098		1.2970	1.2970	0.0000	1,892.1284	1,892.1284	0.5649		1,903.9908
Total	**2.4503**	**26.7288**	**20.1031**	**0.0180**	**3.5436**	**1.4098**	**4.9534**	**1.9387**	**1.2970**	**3.2358**	**0.0000**	**1,892.1284**	**1,892.1284**	**0.5649**		**1,903.9908**

3.3 Grading - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

3.4 Trenching - 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					
Off-Road	1.0810	10.1075	6.6483	8.5400e-003		0.7725	0.7725		0.7107	0.7107		897.0080	897.0080	0.2678		902.6317
Total	**1.0810**	**10.1075**	**6.6483**	**8.5400e-003**		**0.7725**	**0.7725**		**0.7107**	**0.7107**		**897.0080**	**897.0080**	**0.2678**		**902.6317**

3.4 Trenching - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

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					
Off-Road	1.0810	10.1075	6.6483	8.5400e-003		0.7725	0.7725		0.7107	0.7107	0.0000	897.0080	897.0080	0.2678		902.6317
Total	**1.0810**	**10.1075**	**6.6483**	**8.5400e-003**		**0.7725**	**0.7725**		**0.7107**	**0.7107**	**0.0000**	**897.0080**	**897.0080**	**0.2678**		**902.6317**

3.4 Trenching - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

3.5 Building Construction - 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					
Off-Road	1.4753	16.3234	6.5141	0.0107		0.8644	0.8644		0.7953	0.7953		1,129.0802	1,129.0802	0.3371		1,136.1588
Total	**1.4753**	**16.3234**	**6.5141**	**0.0107**		**0.8644**	**0.8644**		**0.7953**	**0.7953**		**1,129.0802**	**1,129.0802**	**0.3371**		**1,136.1588**

3.5 Building Construction - 2015

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	0.0000	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	0.0517	0.5016	0.6419	1.0800e-003	0.0312	8.6500e-003	0.0399	8.9000e-003	7.9600e-003	0.0169		109.3084	109.3084	8.9000e-004		109.3270
Worker	0.0710	0.0954	0.9954	1.9900e-003	0.1677	1.4800e-003	0.1691	0.0445	1.3500e-003	0.0458		173.3491	173.3491	9.9500e-003		173.5581
Total	**0.1228**	**0.5970**	**1.6373**	**3.0700e-003**	**0.1989**	**0.0101**	**0.2090**	**0.0534**	**9.3100e-003**	**0.0627**		**282.6576**	**282.6576**	**0.0108**		**282.8851**

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					
Off-Road	1.4753	16.3234	6.5141	0.0107		0.8644	0.8644		0.7953	0.7953	0.0000	1,129.0802	1,129.0802	0.3371		1,136.1588
Total	**1.4753**	**16.3234**	**6.5141**	**0.0107**		**0.8644**	**0.8644**		**0.7953**	**0.7953**	**0.0000**	**1,129.0802**	**1,129.0802**	**0.3371**		**1,136.1588**

3.5 Building Construction - 2015

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	0.0000	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	0.0517	0.5016	0.6419	1.0800e-003	0.0312	8.6500e-003	0.0399	8.9000e-003	7.9600e-003	0.0169		109.3084	109.3084	8.9000e-004		109.3270
Worker	0.0710	0.0954	0.9954	1.9900e-003	0.1677	1.4800e-003	0.1691	0.0445	1.3500e-003	0.0458		173.3491	173.3491	9.9500e-003		173.5581
Total	**0.1228**	**0.5970**	**1.6373**	**3.0700e-003**	**0.1989**	**0.0101**	**0.2090**	**0.0534**	**9.3100e-003**	**0.0627**		**282.6576**	**282.6576**	**0.0108**		**282.8851**

3.5 Building Construction - 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					
Off-Road	1.4204	15.7273	6.3718	0.0107		0.8257	0.8257		0.7596	0.7596		1,117.4350	1,117.4350	0.3371		1,124.5133
Total	**1.4204**	**15.7273**	**6.3718**	**0.0107**		**0.8257**	**0.8257**		**0.7596**	**0.7596**		**1,117.4350**	**1,117.4350**	**0.3371**		**1,124.5133**

3.5 Building Construction - 2016

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	0.0000	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	0.0456	0.4427	0.5978	1.0800e-003	0.0313	7.1800e-003	0.0384	8.9000e-003	6.6100e-003	0.0155		108.1002	108.1002	8.0000e-004		108.1170
Worker	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495
Total	**0.1096**	**0.5287**	**1.4962**	**3.0700e-003**	**0.1989**	**8.5800e-003**	**0.2075**	**0.0534**	**7.9000e-003**	**0.0613**		**275.4575**	**275.4575**	**9.9500e-003**		**275.6666**

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					
Off-Road	1.4204	15.7273	6.3718	0.0107		0.8257	0.8257		0.7596	0.7596	0.0000	1,117.4350	1,117.4350	0.3371		1,124.5133
Total	**1.4204**	**15.7273**	**6.3718**	**0.0107**		**0.8257**	**0.8257**		**0.7596**	**0.7596**	**0.0000**	**1,117.4350**	**1,117.4350**	**0.3371**		**1,124.5133**

3.5 Building Construction - 2016

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	0.0000	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	0.0456	0.4427	0.5978	1.0800e-003	0.0313	7.1800e-003	0.0384	8.9000e-003	6.6100e-003	0.0155		108.1002	108.1002	8.0000e-004		108.1170
Worker	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495
Total	**0.1096**	**0.5287**	**1.4962**	**3.0700e-003**	**0.1989**	**8.5800e-003**	**0.2075**	**0.0534**	**7.9000e-003**	**0.0613**		**275.4575**	**275.4575**	**9.9500e-003**		**275.6666**

3.6 Paving - 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					
Off-Road	1.0901	10.1921	6.7017	8.6000e-003		0.7788	0.7788		0.7165	0.7165		904.2161	904.2161	0.2700		909.8850
Paving	0.1703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2604**	**10.1921**	**6.7017**	**8.6000e-003**		**0.7788**	**0.7788**		**0.7165**	**0.7165**		**904.2161**	**904.2161**	**0.2700**		**909.8850**

3.6 Paving - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

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					
Off-Road	1.0901	10.1921	6.7017	8.6000e-003		0.7788	0.7788		0.7165	0.7165	0.0000	904.2161	904.2161	0.2700		909.8850
Paving	0.1703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2604**	**10.1921**	**6.7017**	**8.6000e-003**		**0.7788**	**0.7788**		**0.7165**	**0.7165**	**0.0000**	**904.2161**	**904.2161**	**0.2700**		**909.8850**

3.6 Paving - 2015

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	0.0000	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
Worker	0.0237	0.0318	0.3318	6.6000e-004	0.0559	4.9000e-004	0.0564	0.0148	4.5000e-004	0.0153		57.7831	57.7831	3.3200e-003		57.8527
Total	**0.0237**	**0.0318**	**0.3318**	**6.6000e-004**	**0.0559**	**4.9000e-004**	**0.0564**	**0.0148**	**4.5000e-004**	**0.0153**		**57.7831**	**57.7831**	**3.3200e-003**		**57.8527**

3.7 Architectural Coating - 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					
Archit. Coating	15.0164					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7369	4.7445	3.7678	5.9400e-003		0.3932	0.3932		0.3932	0.3932		562.8961	562.8961	0.0664		564.2897
Total	**15.7533**	**4.7445**	**3.7678**	**5.9400e-003**		**0.3932**	**0.3932**		**0.3932**	**0.3932**		**562.8961**	**562.8961**	**0.0664**		**564.2897**

3.7 Architectural Coating - 2016

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	0.0000	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
Worker	0.0128	0.0172	0.1797	4.0000e-004	0.0335	2.8000e-004	0.0338	8.8900e-003	2.6000e-004	9.1500e-003		33.4715	33.4715	1.8300e-003		33.5099
Total	**0.0128**	**0.0172**	**0.1797**	**4.0000e-004**	**0.0335**	**2.8000e-004**	**0.0338**	**8.8900e-003**	**2.6000e-004**	**9.1500e-003**		**33.4715**	**33.4715**	**1.8300e-003**		**33.5099**

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					
Archit. Coating	15.0164					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7369	4.7445	3.7678	5.9400e-003		0.3932	0.3932		0.3932	0.3932	0.0000	562.8961	562.8961	0.0664		564.2897
Total	**15.7533**	**4.7445**	**3.7678**	**5.9400e-003**		**0.3932**	**0.3932**		**0.3932**	**0.3932**	**0.0000**	**562.8961**	**562.8961**	**0.0664**		**564.2897**

3.7 Architectural Coating - 2016

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	0.0000	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
Worker	0.0128	0.0172	0.1797	4.0000e-004	0.0335	2.8000e-004	0.0338	8.8900e-003	2.6000e-004	9.1500e-003		33.4715	33.4715	1.8300e-003		33.5099
Total	**0.0128**	**0.0172**	**0.1797**	**4.0000e-004**	**0.0335**	**2.8000e-004**	**0.0338**	**8.8900e-003**	**2.6000e-004**	**9.1500e-003**		**33.4715**	**33.4715**	**1.8300e-003**		**33.5099**

4.0 Operational Detail - Mobile

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	0.8605	0.9403	9.5518	0.0239	1.9013	0.0139	1.9152	0.5040	0.0128	0.5168		1,957.7684	1,957.7684	0.0950		1,959.7640
Unmitigated	0.8605	0.9403	9.5518	0.0239	1.9013	0.0139	1.9152	0.5040	0.0128	0.5168		1,957.7684	1,957.7684	0.0950		1,959.7640

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	266.56	266.56	266.56	910,876	910,876
Total	266.56	266.56	266.56	910,876	910,876

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.570233	0.066995	0.200695	0.154865	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.004850	0.000000	0.002363

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

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	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
NaturalGas Unmitigated	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594

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/yr	lb/day										lb/day					
Other Asphalt Surfaces	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
Single Family Housing	2215.72	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
Total		**0.0239**	**0.2042**	**0.0869**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**		**260.6730**	**260.6730**	**5.0000e-003**	**4.7800e-003**	**262.2594**

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/yr	lb/day										lb/day					
Single Family Housing	2.21572	0.0239	0.2042	0.0869	1.3000e-003		0.0165	0.0165		0.0165	0.0165		260.6730	260.6730	5.0000e-003	4.7800e-003	262.2594
Other Asphalt Surfaces	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
Total		**0.0239**	**0.2042**	**0.0869**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**		**260.6730**	**260.6730**	**5.0000e-003**	**4.7800e-003**	**262.2594**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5282	0.0272	2.3360	1.2000e-004		0.0465	0.0465		0.0461	0.0461	0.0000	537.8066	537.8066	0.0144	9.7800e-003	541.1419
Unmitigated	8.8163	0.2134	16.4073	0.0225		2.1515	2.1515		2.1512	2.1512	262.2737	508.1595	770.4332	0.7863	0.0178	792.4645

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	0.1810					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2256					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	7.3370	0.1862	14.0740	0.0224		2.1389	2.1389		2.1385	2.1385	262.2737	504.0000	766.2737	0.7822	0.0178	788.2173
Landscaping	0.0727	0.0272	2.3333	1.2000e-004		0.0127	0.0127		0.0127	0.0127		4.1595	4.1595	4.1700e-003		4.2472
Total	**8.8163**	**0.2134**	**16.4073**	**0.0225**		**2.1515**	**2.1515**		**2.1512**	**2.1512**	**262.2737**	**508.1595**	**770.4332**	**0.7863**	**0.0178**	**792.4645**

6.2 Area by SubCategory

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	0.1810					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2256					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0489	0.0000	2.6700e-003	0.0000		0.0338	0.0338		0.0334	0.0334	0.0000	533.6471	533.6471	0.0102	9.7800e-003	536.8948
Landscaping	0.0727	0.0272	2.3333	1.2000e-004		0.0127	0.0127		0.0127	0.0127		4.1595	4.1595	4.1700e-003		4.2472
Total	**1.5282**	**0.0272**	**2.3360**	**1.2000e-004**		**0.0465**	**0.0465**		**0.0461**	**0.0461**	**0.0000**	**537.8066**	**537.8066**	**0.0144**	**9.7800e-003**	**541.1420**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Appendix to the Air Quality and Greenhouse Gas Evaluation

This appendix to the air quality section provides a discussion of the climate/meteorology, relevant air quality regulations, existing air quality conditions, and air quality significance thresholds. This discussion supplements the project impact analysis found within the Initial Study for the proposed project.

Climate/Meteorology

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The County of Orange is located entirely within the South Coast Air Basin (SoCAB). The SoCAB incorporates approximately 12,000 square miles within four counties – San Bernardino, Riverside, Los Angeles, and Orange – including some portions of what was previously known as the Southeast Desert Air Basin.

The distinctive climate of the SoCAB is determined by its terrain and geographic location. The SoCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

The vertical dispersion of air pollutants in the SoCAB is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semi-permanent high-pressure zone in which the SoCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of high-level subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer, and together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog.

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low-level inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, smog potential is greatly reduced.

Air Quality Regulations, Plans and Policies

The Federal Clean Air Act (FCAA) was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 Clean Air Act Amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including non-attainment requirements for areas not meeting National Ambient Air Quality Standards (NAAQS) and the Prevention of Significant Deterioration (PSD) program. The 1990 Amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the U.S.

In 1988, the State Legislature passed the California Clean Air Act (CCAA), which established California's air quality goals, planning mechanisms, regulatory strategies and standards of progress for the first time. The CCAA provides the State with a comprehensive framework for air quality planning regulation. The CCAA requires attainment of state ambient air quality standards by the earliest practicable date. Attainment Plans are required for air basins in violation of the state ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2) or nitrogen dioxide (NO_2) standards. Preparation of and adherence to attainment plans are the responsibility of the local air pollution districts or air quality management districts.

State and federal agencies have set ambient air quality standards for certain air pollutants. NAAQS have been established for the following criteria pollutants: CO, O_3, SO_2, NO_2, inhalable particulate matter (PM10 and PM2.5) and lead (Pb). The state standards for these criteria pollutants are more stringent than the corresponding federal standards. Table AQ-1 summarizes the state and federal standards.

Table AQ-1

Ambient Air Quality Standards

Pollutant	*Averaging Time*	CAAQS[1,3]	NAAQS[2]	
			Primary[3,4]	Secondary[3,5]
O_3	*1 hour*	0.09 ppm (180 µg/m^3)	---	Same as primary
	8 hours	0.070 ppm (137 µg/m^3)*	0.075 ppm (147 µg/m^3)[6]	Same as primary
CO	*8 hours*	9 ppm (10 mg/m^3)	9 ppm (10 mg/m3)	---
	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	---
NO_2	*Annual Arithmetic Mean*	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as primary
	1 hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	None
SO_2	*24 hours*	0.04 ppm (105 µg/m^3)	---	---
	3 hours	---	---	0.5 ppm (1,300 µg/m3)
	1 hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	---
Respirable PM_{10}	*Annual Arithmetic Mean*	20 µg/m^3	---	Same as primary
	24 hours	50 µg/m^3	150 µg/m^3	Same as primary
$PM_{2.5}$ [6]	*Annual Arithmetic Mean*	12 µg/m^3	12 µg/m^3	Same as primary
	24 hours	---	35 µg/m^3	Same as primary
Sulfates	*24 hours*	25 µg/m^3	---	---
Lead	*30 day Average*	1.5 µg/m^3	---	---
	Calendar Quarter	---	1.5 µg/m^3	Same as primary
Hydrogen sulfide	*1 hour*	0.03 ppm (42 µg/m^3)	---	---
Vinyl chloride [7]	*24 hours*	0.01 ppm (26 µg/m^3)	---	---
Visibility reducing particles	*8 hours*	Extinction coefficient of 0.23 per km - visibility of 10 miles or more – due to particles when the relative humidity is less than 70 percent.	---	---

Source: CARB, 6/4/13.

Notes:

1. California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter – PM10, PM2.5, and visibility reducing articles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards, other than O3, particulate matter, and those based on annual averages (or annual arithmetic mean), are not to be exceeded more than once a year. The O3 standard is attained when the fourth-highest 8-hour concentration, averaged over three years is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150µg/m3 is equal to or less than one For PM2.5, the 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. New Federal 8-hour O_3 and fine PM2.5 standards were promulgated by EPA on July 18, 1997.
7. The California Air Resources Board (CARB) has identified Pb and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Areas are classified under the Federal Clean Air Act as either "attainment" or "non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. The South Coast Air Basin is designated as a non-attainment area for O_3, CO, and PM10.

Existing Air Quality

The project site is located within the central portion of Source/Receptor Area (SRA) 18 (North Coastal Orange County) and is under SCAQMD jurisdiction. The communities within a given SRA are expected to have similar climatology. PM10 and PM2.5 are not monitored at the North Coastal Orange County station and data from the Saddleback Valley station is provided. All values are included in Table 2.

Table 2
Ambient Air Quality Monitoring Summary

	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations		
Pollutant/Standard	***2011***	***2012***	***2013***
Ozone[1]			
State 1-Hour ≥ 0.09 ppm	0	2	1
State 8-hour ≥ 0.07 ppm	2	1	2
Federal 1-Hour > 0.12 ppm	0	0	0
Federal 8-Hour > 0.08 ppm	1	1	1
Max. 1-Hour Conc. (ppm)	0.093	0.090	0.095
Max. 8-Hour Conc. (ppm)	0.077	0.076	0.083
Carbon Monoxide[1]			
State 1-Hour > 20 ppm	0	0	NM
State 8-Hour > 9.0 ppm	0	0	0
Federal 8-Hour ≥ 9.5 ppm	0	0	0
Max 1-Hour Conc. (ppm)	NM	NM	NM
Max. 8-Hour Conc. (ppm)	2.2	1.7	2.0
Nitrogen Dioxide[1]			
Annual Average (ppb)	10.0	10.4	11.6
Max. 1-Hour Conc. (ppb)	60.5	74.4	75.7
Inhalable Coarse Particulates (PM_{10})[2]			
State 24-Hour > 50 µg/m^3	0	0	1
Federal 24-Hour > 150 µg/m^3	0	0	0
Max. 24-Hour Conc. (µg/m^3)	48	37	51
Inhalable Fine Particulates ($PM_{2.5}$)[2]			
State 24-Hour > 12 µg/m^3			
Federal 24-Hour > 65 µg/m^3	0	0	0
Max. 24-Hour Conc. (µg/m^3)	33.4	27.6	28.0

NM – Not monitored.

ppm: parts per million; µg/m^3: micrograms per cubic meter

[1] North Coastal Orange County

[2] Saddleback Valley.

Table 2 Ambient Air Quality Monitoring Summary			
	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations		
Pollutant/Standard	***2011***	***2012***	***2013***

Source: South Coast Air Quality Management District, 2014.

The data show recurring violations of both the state and federal ozone standards. The data also indicate that the area exceeds the state PM10 standards once for the past three years. The CO federal 8-hour standard has not been violated. The NO_2 and PM2.5 standard has not been violated in the last three years within the project area or surrounding areas.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill and the chronically ill, especially those with cardio-respiratory diseases. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Although air exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public. The proposed project is not considered a sensitive land use because no persons would reside or work within the project structures.

Methodology

The air quality assessment for the proposed project estimates emissions associated with construction and operation of the proposed project. The impact analysis contained in this section was prepared in accordance with the methodologies provided by the South Coast Air Quality Management District (SCAQMD) as included in the CalEEMod model. The calculated emissions of the project are compared to thresholds of significance for individual projects using the South Coast Air Quality Management District (SCAQMD) *Air Quality Analysis Guidance Handbook*.

January 7, 2015

City of Costa Mesa
Development Services Department
77 Fair Drive
Costa Mesa, CA 92626
714.754.5610
Contact: Antonio Gardea, Senior Planner

SUBJECT: Technical Memorandum for Percholoroethylene Health Risk for the Proposed Trumark Homes Project

Dear Mr. Gardea:

URS was contracted to conduct this Health Risk Assessment (HRA) to determine whether siting the proposed Trumark Homes project in proximity to the Victoria Street Cleaners and Alterations would expose future residents of the project to significant levels of health risk from the dry cleaners use of percholoroethylene.

Introduction

The proposed project, "Trumark Homes," consists of a 28-unit single-family residential development comprising 14 two-car garage and two-car driveway apron units; 14 two-car garage and one-car driveway apron units; and 14 open guest parking spaces. This proposed development will replace an existing Research and Development office building located at 1239 Victoria Street in Costa Mesa, CA. The project site is located in Orange County, which is located in the South Coast Air Basin (Air Basin) and the Air Basin is governed by the South Coast Air Quality Management District (SCAQMD).

An initial review of the neighboring land uses indicated that there is a dry cleaning facility within a commercial/retail complex located to the northeast of the proposed residences at 1125 Victoria Street. Emissions produced by dry cleaning facilities are regulated by the SCAQMD. The SCAQMD FIND (Facility INformation Detail) database identified this dry cleaner as "Victoria Cleaners & Alterations" (ID# 11294) located approximately 82 feet (25 meters) from the project site. The permit issued to this facility indicates the use of perchloroethylene (perc) and is attached in Appendix A.

California Air Resources Board

Inhalation of perc may result in both cancer and non-cancer health effects. An assessment by California's Office of Environmental Health Hazard Assessment (OEHHA) concluded that perc is a potential human carcinogen and can cause non-cancer health effects. Non-cancer health effects occur with higher exposure levels than those associated with significant cancer risks for perc. The public is more likely to be exposed to perc at levels causing significant cancer risks than to levels causing non-cancer health effects. Non-cancer health effects, unlike cancer health effects, have a threshold or

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exposure level below which non-cancer health effects would not be expected. In October 1991, the ARB formally identified perc as a toxic air contaminant.

The California Air Resources Board (ARB) *Air Quality and Land Use Handbook* contains recommendations that will "help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution" (ARB 2005), including recommendations for distances between sensitive receptors and certain land uses. Perchloroethylene (perc) is the solvent most commonly used by the dry cleaning industry to clean clothes or other materials. The ARB and other public health agencies have identified perc as a potential cancer-causing compound. Perc persists in the atmosphere long enough to contribute to both regional air pollution and localized exposures. Dry cleaners using perc are the primary source of perc emissions in California. In 1993, ARB adopted an Airborne Toxic Control Measure (ATCM) for Perc Emissions from Dry Cleaning Operations. Perc dry cleaners statewide are required to comply with ARB and local air district regulations to reduce emissions.

Risk associated with a perc dry cleaning operation is dependent on various factors, including the amount of perc emissions, the type of dry cleaning equipment, proximity of the receptor to the source, and how the emissions are released and dispersed (e.g., type of ventilation system, stack parameters, and local meteorology). In the *Air Quality and Land Use Handbook*, ARB recommends avoiding the siting of new sensitive land uses within 300 feet of any dry cleaning operation with only one machine that uses perc. For operations with two machines, ARB recommends a buffer of 500 feet. For operations with three or more machines, ARB recommends consultation with the local air district. The project site is approximately 82 feet (25 meters) to the northeast of Victoria Cleaners & Alterations. Considering the proximity of the proposed project residences from the dry cleaner facility, a health risk assessment should be performed to determine if significant levels of health risk would occur to residents of the proposed residences.

The California ARB *Air Quality and Land Use Handbook* also states that "The South Coast AQMD has adopted a rule requiring that all new dry cleaners use alternatives to perc and that existing dry cleaners phase out the use of perc by December 2020. Over time, transition to non-toxic alternatives should occur. However, while perc continues to be used, a preventative approach should be taken to siting of new sensitive land uses."

SCAQMD Rule 1421

SCAQMD Rule 1421 - Control of Perchloroethylene Emissions from Dry Cleaning Systems applies to all owners or operators of a perchloroethylene dry cleaning facility. The purpose of the rule is to protect public health by reducing perchloroethylene emissions from dry cleaning systems and transitioning them to non-perchloroethylene alternatives. Facilities using perchloroethylene dry cleaning systems are required to comply with applicable portions of this rule and the federal National Emission Standard for Hazardous Air Pollutants (NESHAP) for Source Categories: Perchloroethylene Dry Cleaning Facilities (40 Code of Federal Regulations [CFR] 63.320, *et seq*) and the state Airborne Toxic Control Measure (ATCM) for Emissions of Perchloroethylene from Dry Cleaning Operations (17 California Code of Regulations [CCR] 93109, *et seq*). According to Section (d)(1)(F) of Rule 1421, the use of perc in dry cleaning facilities will be discontinued by December 31, 2020.

Health Risk Assessment Methodology

To estimate cancer risks from the industry-wide source category of perchloroethylene dry cleaners, SCAQMD has adopted the methods consistent with:

- SCAQMD's risk assessment procedures for Rule 1401
- California Air Pollution Control Officer Association (CAPCOA) *Risk Assessment Guidance for Perchloroethylene Dry Cleaners*
- *Emission Inventory and Risk Assessment Guidelines for Perchloroethylene Dry Cleaners*

These methods are used to estimate emissions, pollutant concentrations, and cancer risks. Perchloroethylene emissions from dry cleaners primarily originate from leaks and from the loading door and other maintenance ports[1].

Risk Assessment Methods

The risk assessment methods used in the SCAQMD's *Risk Assessment Procedures for Rule 1401 and 212 (Version 7.0)* are used to calculate the cancer risks and non-cancer chronic hazard index from perchloroethylene dry cleaners. The cancer risk (CR) is calculated as follows:

$$CR = \text{Cancer Potency (CP)} * \text{Dose Inhalation (DI)} * \text{Multi-Pathway Factor (MP)}$$

Where,

$$DI = C_{air} * DBR * EVF * 10^{-6} * MP$$

$$C_{air} = C_{ann} * AF_{ann}$$

Therefore, the equation for calculating cancer risk is:

$$CR = CP * C_{ann} * AF_{ann} * DBR * EVF * 10^{-6} * MP$$

CP is cancer potency in units of $(mg/kg\text{-}day)^{-1}$. The cancer potency for perchloroethylene is 0.021 $(mg/kg\text{-}day)^{-1}$. C_{ann} is the model-predicted annual average perchloroethylene concentration in $\mu g/m^3$. AF_{ann} is a concentration adjustment factor. It adjusts the model-predicted annual average perchloroethylene concentration, which are 24 hrs/day and 7 days/week averages, to an average for the off-site worker exposure period (i.e., 8 hrs/day and 5 days/week). This is necessary because the worker breathing rate of 149 L/kg-day is only applicable to the work-day and work-week exposure. It is assumed that the worker is only exposed while at work. Since the generic perc dry cleaner is assumed to operate 8 hrs/day and 5 days/week, AF_{ann} is assumed to be 4.2 (i.e., 24/8 * 7/5) for the worker receptors. AF_{ann} is 1 for residential receptors.

DBR is the daily breathing rate in units of L/kg-day. The daily breathing rates for workers and residents are 149 L/kg-day and 302 L/kg-day, respectively. EVF is the exposure value factor, which is assumed to be 0.38 for workers and 0.96 for residents. The multi-pathway adjustment factor (MP) is used for substances that may contribute to risk from exposures other than inhalation. Inhalation is the only pathway into the body for perchloroethylene; therefore, the multi-pathway factor is 1.

[1] *Emission Inventory and Risk Assessment Guidelines for Perchloroethylene Dry Cleaners*, SCAQMD January 2007.

The following equation is used to calculate the non-cancer chronic hazard index (HI):

$$\text{Chronic HI} = C_{ann}/REL_{perc}$$

C_{ann} is the model-predicted annual average perchloroethylene concentration in $\mu g/m^3$ and REL_{perc} is the chronic reference exposure level for perchloroethylene, which is 35 $\mu g/m^3$.

Risk Tables

Risk tables were developed and presented in the *Emission Inventory and Risk Assessment Guidelines for Perchloroethylene Dry Cleaners* (HRA Dry Cleaner Guidance) to provide a methodology for the assessment of potential health risk impacts based on the proximity of dry cleaners from sensitive uses.

The three key variables necessary to estimate cancer risks using the lookup tables from perc dry cleaners are:

- Perchloroethylene usage, usually expressed as gallons per month or gallons per year;
- Distance to the nearest residential and commercial receptor, which are always assumed to be directly downwind of the facility; and
- Location of the perc dry cleaner, which is necessary for determining the appropriate meteorological site.

Tables 2 and 3 of the HRA Dry Cleaner Guidance provide the maximum cancer risks for a perchloroethylene dry cleaner with emissions of 10 gal/yr at various residential and occupational distances, respectively, and Table 4 provides the chronic hazard index at various distances. The proposed project's property line is located approximately 25 meters (82 feet) away from the dry cleaner. Based on Table 2, the residential cancer risk in Costa Mesa associated with perc at a distance of 25 meters is 12.25 in 1 million. This level of risk is from the use of 10 gallons per year of perc with an exposure duration of 70 years. The SCAQMD permit for facility ID# 11294 allows up to 36 gallons of perc to be used annually. The HRA Dry Cleaner Guidance establishes a methodology to calculate the cancer and chronic risk of based on the specific perc usage at dry cleaning facilities. As such, the health risk was calculated based on 36 gallons of perc usage per year.

The levels of cancer risk within the HRA Dry Cleaner Guidance were also based on a 70 year lifetime exposure duration.[2] The SCAQMD regulates perc from dry cleaners under Rule 1421 – Control Percholoroethylene Emissions from Dry Cleaning Systems. Under Rule 1421, perc used in dry cleaning operations will be phased out by December 31, 2020. Consequently, exposure to perc from these facilities will end by the end of the year 2020. The construction the proposed project is anticipated to be completed by the year 2017, which would result in a maximum exposure of project residents for a period of four years since perc usage will be discontinued by the end of 2020. The four year exposure

[2] The *Emission Inventory and Risk Assessment Guidelines for Perchloroethylene Dry Cleaners* states on page 8 "The risk assessment methods used in the AQMD's risk assessment procedures for Rule 1401 and 212 (Version 7.0) are used to calculate the cancer risk and noncancer chronic hazard index from perchloroethylene dry cleaners." Page 1401-3 of SCAQMD Rule 1401 – New Source Review of Toxic Air Contaminants states that the maximum individual cancer risk is based on exposure to toxic air contaminants over a period of 70 years for residential receptor locations.

period for perc was used in the calculation of Dose Inhalation based on Page 5-16 of the Office of Environmental Health and Hazard Assessment's (OEHHA) *Air Toxics Hot Spots Program Risk Assessment Guidelines*, August 2003. An exposure duration factor was developed based on the ratio of dose inhalation values for a 4 year and 70 year exposure period. This Exposure Adjustment Factor was then applied to the cancer risk and the chronic hazard index from the HRA Dry Cleaner Guidance. The results of the health risk assessment are shown in Table 1.

Table 1
Cancer Risk at Proposed Residences
from Perchloroethylene Dry Cleaning Facility (ID# 11294)

Facility ID# 11294 Perc Usage	Level of Cancer Risk
Cancer Risk with 70 year exposure period	44 in a million
Cancer Risk with 4 year exposure period	5 in a million
SCAQMD Significance Threshold	10 in a million
Exceeds Threshold?	No

As shown Table 1, the amount of cancer risk decreases substantially with the reduction in the exposure period from 70 years to 4 years of pollutant exposure. The resulting cancer risk is 5 in a million from the exposure of future residents to perc, which is below the SCAQMD significance threshold of 10 in a million. Consequently, the siting of the proposed Trumark residences proximate to the existing "Victoria Cleaners and Alterations" facility would not expose future residences to significant levels of cancer risk.

The chronic hazard index was also assessed for the proposed Trumark residences. The chronic hazard index evaluates whether chronic exposure to toxic air pollutants would pose a health risk. The chronic health index associated with perc exposure from dry cleaners was evaluated at a distance of 25 meters within the City of Costa Mesa. The level of risk provided within Table 4 of the HRA Dry Cleaner Guidance was adjusted from the reference usage rate of 10 gallons per year to the "Victoria Cleaners and Alterations" facility usage rate of 36 gallons per year. As shown in Table 2, the chronic hazard index at the proposed residences would be 0.21, which is below the SCAQMD significance threshold of 1 for chronic hazards. Because the chronic hazard index is below the SCAQMD's significance threshold, siting of the proposed residences near the dry cleaners would not result in significant levels of chronic risk.

Table 2
Chronic Hazard Index at Proposed Residences
from Perchloroethylene Dry Cleaning Facility (ID# 11294)

Facility ID# 11294 Perc Usage	Level of Chronic Hazard Risk
Chronic Hazard Index	0.21
SCAQMD Significance Threshold	1
Exceeds Threshold?	No

Conclusion

The siting of the proposed residences proximate to the "Victoria Cleaners and Alterations" facility would not exceed the significance thresholds established by the SCAQMD and consequently would not result in excessive exposure from risks from cancer or chronic hazards.

Should you have any questions in regards to this analysis, please do not hesitate to contact Tin Cheung at (909) 980-4000.

Sincerely,

URS CORPORATION

Tin Cheung

Senior Air Quality Scientist

Appendix A