

Appendix A

Air Quality Emissions Modeling

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

Tustin 5 acre lots residential project
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	0.50	7,560.00	3
Single Family Housing	1.00	Dwelling Unit	0.50	7,560.00	3
Single Family Housing	1.00	Dwelling Unit	0.50	7,560.00	3
Single Family Housing	1.00	Dwelling Unit	0.50	7,560.00	3
Single Family Housing	1.00	Dwelling Unit	0.49	7,560.00	3

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

Project Characteristics -

Land Use - 5 acre lots, each lot max size is 7,560 sq. feet. Total site acreage is 2.49 acres.

Construction Phase - Client provided construction schedule

Demolition -

Architectural Coating - Rule 1113

Construction Off-road Equipment Mitigation - Rule 403

Area Mitigation - Rule 1113

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	100	50
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	70
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	70
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	220.00	270.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	6.00	60.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	220.00	60.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	PhaseEndDate	3/6/2018	10/30/2018
tblConstructionPhase	PhaseEndDate	10/13/2017	11/10/2017

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tblConstructionPhase	PhaseEndDate	10/17/2017	7/17/2018
tblConstructionPhase	PhaseEndDate	7/31/2018	7/23/2018
tblConstructionPhase	PhaseEndDate	7/24/2018	4/25/2018
tblConstructionPhase	PhaseEndDate	8/7/2018	7/23/2018
tblConstructionPhase	PhaseStartDate	10/14/2017	4/25/2018
tblConstructionPhase	PhaseStartDate	7/25/2018	7/17/2018
tblConstructionPhase	PhaseStartDate	3/7/2018	2/1/2018
tblConstructionPhase	PhaseStartDate	8/1/2018	7/17/2018
tblGrading	AcresOfGrading	30.00	3.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LotAcreage	0.32	0.50
tblLandUse	LotAcreage	0.32	0.50
tblLandUse	LotAcreage	0.32	0.50
tblLandUse	LotAcreage	0.32	0.50
tblLandUse	LotAcreage	0.32	0.49
tblProjectCharacteristics	OperationalYear	2018	2019

2.0 Emissions Summary

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

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	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291
Energy	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
Mobile	0.5411	2.6155	7.3518	0.0234	0.5694	0.0261	0.5955	0.1796	0.0246	0.2041		2,375.7977	2,375.7977	0.1234		2,378.8830
Total	7.9226	3.1784	20.4969	0.0561	0.5694	1.9413	2.5107	0.1796	1.9397	2.1193	234.1730	2,876.8196	3,110.9925	0.8235	0.0168	3,136.5899

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	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291
Energy	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
Mobile	0.5411	2.6155	7.3518	0.0234	0.5694	0.0261	0.5955	0.1796	0.0246	0.2041		2,375.7977	2,375.7977	0.1234		2,378.8830
Total	7.9226	3.1784	20.4969	0.0561	0.5694	1.9413	2.5107	0.1796	1.9397	2.1193	234.1730	2,876.8196	3,110.9925	0.8235	0.0168	3,136.5899

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	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	Demolition	Demolition	10/1/2017	11/10/2017	5	30	
2	Grading	Grading	4/25/2018	7/17/2018	5	60	
3	Building Construction	Building Construction	10/18/2017	10/30/2018	5	270	
4	Infrastructure Installation	Building Construction	2/1/2018	4/25/2018	5	60	
5	Paving	Paving	7/17/2018	7/23/2018	5	5	
6	Architectural Coating	Architectural Coating	7/17/2018	7/23/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 76,545; Residential Outdoor: 25,515; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Infrastructure Installation	Cranes	1	8.00	231	0.29
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Infrastructure Installation	Forklifts	2	7.00	89	0.20
Infrastructure Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Infrastructure Installation	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Building Construction	Welders	3	8.00	46	0.45
Infrastructure Installation	Welders	3	8.00	46	0.45

Trips and VMT

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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
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	2.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	15.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Infrastructure Installation	8	2.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2017

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					0.1073	0.0000	0.1073	0.0163	0.0000	0.0163			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404		2,421.4229	2,421.4229	0.6125		2,436.7347
Total	2.7625	26.7594	15.5573	0.0241	0.1073	1.6477	1.7549	0.0163	1.5404	1.5566		2,421.4229	2,421.4229	0.6125		2,436.7347

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.2 Demolition - 2017

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	5.2200e-003	0.1699	0.0326	4.0000e-004	8.7300e-003	9.2000e-004	9.6600e-003	2.3900e-003	8.8000e-004	3.2800e-003		43.4204	43.4204	3.1600e-003		43.4995
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	0.0781	0.0575	0.7387	1.6400e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1100e-003	0.0397		162.9783	162.9783	6.1500e-003		163.1321
Total	0.0833	0.2274	0.7713	2.0400e-003	0.1540	2.1300e-003	0.1562	0.0409	1.9900e-003	0.0429		206.3987	206.3987	9.3100e-003		206.6316

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					0.0322	0.0000	0.0322	4.8700e-003	0.0000	4.8700e-003			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404	0.0000	2,421.4229	2,421.4229	0.6125		2,436.7347
Total	2.7625	26.7594	15.5573	0.0241	0.0322	1.6477	1.6798	4.8700e-003	1.5404	1.5452	0.0000	2,421.4229	2,421.4229	0.6125		2,436.7347

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.2 Demolition - 2017

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	5.2200e-003	0.1699	0.0326	4.0000e-004	8.7300e-003	9.2000e-004	9.6600e-003	2.3900e-003	8.8000e-004	3.2800e-003		43.4204	43.4204	3.1600e-003		43.4995
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	0.0781	0.0575	0.7387	1.6400e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1100e-003	0.0397		162.9783	162.9783	6.1500e-003		163.1321
Total	0.0833	0.2274	0.7713	2.0400e-003	0.1540	2.1300e-003	0.1562	0.0409	1.9900e-003	0.0429		206.3987	206.3987	9.3100e-003		206.6316

3.3 Grading - 2018

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					6.0751	0.0000	6.0751	3.3160	0.0000	3.3160			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.4666	2,077.4666	0.6467		2,093.6352
Total	2.1515	24.2895	10.3804	0.0206	6.0751	1.1683	7.2434	3.3160	1.0748	4.3908		2,077.4666	2,077.4666	0.6467		2,093.6352

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.3 Grading - 2018

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	0.0534	0.0385	0.5003	1.2200e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		121.8720	121.8720	4.1700e-003		121.9761
Total	0.0534	0.0385	0.5003	1.2200e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		121.8720	121.8720	4.1700e-003		121.9761

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					1.8225	0.0000	1.8225	0.9948	0.0000	0.9948			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748	0.0000	2,077.4666	2,077.4666	0.6467		2,093.6352
Total	2.1515	24.2895	10.3804	0.0206	1.8225	1.1683	2.9908	0.9948	1.0748	2.0696	0.0000	2,077.4666	2,077.4666	0.6467		2,093.6352

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.3 Grading - 2018

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	0.0534	0.0385	0.5003	1.2200e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		121.8720	121.8720	4.1700e-003		121.9761
Total	0.0534	0.0385	0.5003	1.2200e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		121.8720	121.8720	4.1700e-003		121.9761

3.4 Building Construction - 2017

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	3.3418	23.0287	16.3102	0.0250		1.4697	1.4697		1.4068	1.4068		2,347.6211	2,347.6211	0.5228		2,360.6922
Total	3.3418	23.0287	16.3102	0.0250		1.4697	1.4697		1.4068	1.4068		2,347.6211	2,347.6211	0.5228		2,360.6922

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.4 Building Construction - 2017

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	4.8900e-003	0.1294	0.0342	2.6000e-004	6.4000e-003	1.1200e-003	7.5200e-003	1.8400e-003	1.0700e-003	2.9100e-003		27.7858	27.7858	2.0100e-003		27.8361
Worker	0.0120	8.8400e-003	0.1137	2.5000e-004	0.0224	1.9000e-004	0.0225	5.9300e-003	1.7000e-004	6.1000e-003		25.0736	25.0736	9.5000e-004		25.0973
Total	0.0169	0.1382	0.1479	5.1000e-004	0.0288	1.3100e-003	0.0301	7.7700e-003	1.2400e-003	9.0100e-003		52.8593	52.8593	2.9600e-003		52.9333

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	3.3418	23.0287	16.3102	0.0250		1.4697	1.4697		1.4068	1.4068	0.0000	2,347.6211	2,347.6211	0.5228		2,360.6922
Total	3.3418	23.0287	16.3102	0.0250		1.4697	1.4697		1.4068	1.4068	0.0000	2,347.6211	2,347.6211	0.5228		2,360.6922

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.4 Building Construction - 2017

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	4.8900e-003	0.1294	0.0342	2.6000e-004	6.4000e-003	1.1200e-003	7.5200e-003	1.8400e-003	1.0700e-003	2.9100e-003		27.7858	27.7858	2.0100e-003		27.8361
Worker	0.0120	8.8400e-003	0.1137	2.5000e-004	0.0224	1.9000e-004	0.0225	5.9300e-003	1.7000e-004	6.1000e-003		25.0736	25.0736	9.5000e-004		25.0973
Total	0.0169	0.1382	0.1479	5.1000e-004	0.0288	1.3100e-003	0.0301	7.7700e-003	1.2400e-003	9.0100e-003		52.8593	52.8593	2.9600e-003		52.9333

3.4 Building Construction - 2018

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	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.4 Building Construction - 2018

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	4.3000e-003	0.1215	0.0308	2.6000e-004	6.4000e-003	8.9000e-004	7.2900e-003	1.8400e-003	8.5000e-004	2.6900e-003		27.7009	27.7009	1.9100e-003		27.7488
Worker	0.0107	7.7000e-003	0.1001	2.4000e-004	0.0224	1.8000e-004	0.0225	5.9300e-003	1.7000e-004	6.0900e-003		24.3744	24.3744	8.3000e-004		24.3952
Total	0.0150	0.1292	0.1309	5.0000e-004	0.0288	1.0700e-003	0.0298	7.7700e-003	1.0200e-003	8.7800e-003		52.0753	52.0753	2.7400e-003		52.1440

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	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.4 Building Construction - 2018

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	4.3000e-003	0.1215	0.0308	2.6000e-004	6.4000e-003	8.9000e-004	7.2900e-003	1.8400e-003	8.5000e-004	2.6900e-003		27.7009	27.7009	1.9100e-003		27.7488
Worker	0.0107	7.7000e-003	0.1001	2.4000e-004	0.0224	1.8000e-004	0.0225	5.9300e-003	1.7000e-004	6.0900e-003		24.3744	24.3744	8.3000e-004		24.3952
Total	0.0150	0.1292	0.1309	5.0000e-004	0.0288	1.0700e-003	0.0298	7.7700e-003	1.0200e-003	8.7800e-003		52.0753	52.0753	2.7400e-003		52.1440

3.5 Infrastructure Installation - 2018

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	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.5 Infrastructure Installation - 2018

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	4.3000e-003	0.1215	0.0308	2.6000e-004	6.4000e-003	8.9000e-004	7.2900e-003	1.8400e-003	8.5000e-004	2.6900e-003		27.7009	27.7009	1.9100e-003		27.7488
Worker	0.0107	7.7000e-003	0.1001	2.4000e-004	0.0224	1.8000e-004	0.0225	5.9300e-003	1.7000e-004	6.0900e-003		24.3744	24.3744	8.3000e-004		24.3952
Total	0.0150	0.1292	0.1309	5.0000e-004	0.0288	1.0700e-003	0.0298	7.7700e-003	1.0200e-003	8.7800e-003		52.0753	52.0753	2.7400e-003		52.1440

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	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.5 Infrastructure Installation - 2018

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	4.3000e-003	0.1215	0.0308	2.6000e-004	6.4000e-003	8.9000e-004	7.2900e-003	1.8400e-003	8.5000e-004	2.6900e-003		27.7009	27.7009	1.9100e-003		27.7488
Worker	0.0107	7.7000e-003	0.1001	2.4000e-004	0.0224	1.8000e-004	0.0225	5.9300e-003	1.7000e-004	6.0900e-003		24.3744	24.3744	8.3000e-004		24.3952
Total	0.0150	0.1292	0.1309	5.0000e-004	0.0288	1.0700e-003	0.0298	7.7700e-003	1.0200e-003	8.7800e-003		52.0753	52.0753	2.7400e-003		52.1440

3.6 Paving - 2018

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	1.4046	14.2518	11.9787	0.0178		0.8505	0.8505		0.7836	0.7836		1,774.2430	1,774.2430	0.5419		1,787.7896
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4046	14.2518	11.9787	0.0178		0.8505	0.8505		0.7836	0.7836		1,774.2430	1,774.2430	0.5419		1,787.7896

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.6 Paving - 2018

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	0.0801	0.0578	0.7505	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2400e-003	0.0457		182.8080	182.8080	6.2500e-003		182.9642
Total	0.0801	0.0578	0.7505	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2400e-003	0.0457		182.8080	182.8080	6.2500e-003		182.9642

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	1.4046	14.2518	11.9787	0.0178		0.8505	0.8505		0.7836	0.7836	0.0000	1,774.2430	1,774.2430	0.5419		1,787.7896
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4046	14.2518	11.9787	0.0178		0.8505	0.8505		0.7836	0.7836	0.0000	1,774.2430	1,774.2430	0.5419		1,787.7896

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.6 Paving - 2018

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	0.0801	0.0578	0.7505	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2400e-003	0.0457		182.8080	182.8080	6.2500e-003		182.9642
Total	0.0801	0.0578	0.7505	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2400e-003	0.0457		182.8080	182.8080	6.2500e-003		182.9642

3.7 Architectural Coating - 2018

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	47.3048					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	47.6034	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.7 Architectural Coating - 2018

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

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	47.3048					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	47.6034	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

3.7 Architectural Coating - 2018

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

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	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	0.5411	2.6155	7.3518	0.0234	0.5694	0.0261	0.5955	0.1796	0.0246	0.2041		2,375.7977	2,375.7977	0.1234		2,378.8830
Unmitigated	0.5411	2.6155	7.3518	0.0234	0.5694	0.0261	0.5955	0.1796	0.0246	0.2041		2,375.7977	2,375.7977	0.1234		2,378.8830

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Total	47.60	49.55	43.10	161,412	161,412

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989

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	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
NaturalGas Unmitigated	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

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					
Single Family Housing	85.4744	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
Total		4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779

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	0.0854744	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
Total		4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779

6.0 Area Detail

6.1 Mitigation Measures Area

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	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	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291
Unmitigated	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

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	0.0648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7484					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	6.5509	0.5187	12.7138	0.0324		1.9097	1.9097		1.9097	1.9097	234.1730	450.0000	684.1730	0.6984	0.0159	706.3681
Landscaping	0.0127	4.8000e-003	0.4146	2.0000e-005		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		0.7428	0.7428	7.3000e-004		0.7610
Total	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

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	0.0648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7484					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	6.5509	0.5187	12.7138	0.0324		1.9097	1.9097		1.9097	1.9097	234.1730	450.0000	684.1730	0.6984	0.0159	706.3681
Landscaping	0.0127	4.8000e-003	0.4146	2.0000e-005		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		0.7428	0.7428	7.3000e-004		0.7610
Total	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291

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
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10.0 Stationary Equipment

Tustin 5 acre lots residential project - South Coast Air Basin, Summer

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

Tustin 5 acre lots residential project
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	0.50	7,560.00	3
Single Family Housing	1.00	Dwelling Unit	0.50	7,560.00	3
Single Family Housing	1.00	Dwelling Unit	0.50	7,560.00	3
Single Family Housing	1.00	Dwelling Unit	0.50	7,560.00	3
Single Family Housing	1.00	Dwelling Unit	0.49	7,560.00	3

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

Project Characteristics -

Land Use - 5 acre lots, each lot max size is 7,560 sq. feet. Total site acreage is 2.49 acres.

Construction Phase - Client provided construction schedule

Demolition -

Architectural Coating - Rule 1113

Construction Off-road Equipment Mitigation - Rule 403

Area Mitigation - Rule 1113

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	100	50
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	70
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	70
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	220.00	270.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	6.00	60.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	220.00	60.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	PhaseEndDate	3/6/2018	10/30/2018
tblConstructionPhase	PhaseEndDate	10/13/2017	11/10/2017

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

tblConstructionPhase	PhaseEndDate	10/17/2017	7/17/2018
tblConstructionPhase	PhaseEndDate	7/31/2018	7/23/2018
tblConstructionPhase	PhaseEndDate	7/24/2018	4/25/2018
tblConstructionPhase	PhaseEndDate	8/7/2018	7/23/2018
tblConstructionPhase	PhaseStartDate	10/14/2017	4/25/2018
tblConstructionPhase	PhaseStartDate	7/25/2018	7/17/2018
tblConstructionPhase	PhaseStartDate	3/7/2018	2/1/2018
tblConstructionPhase	PhaseStartDate	8/1/2018	7/17/2018
tblGrading	AcresOfGrading	30.00	3.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	BuildingSpaceSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LandUseSquareFeet	1,800.00	7,560.00
tblLandUse	LotAcreage	0.32	0.50
tblLandUse	LotAcreage	0.32	0.50
tblLandUse	LotAcreage	0.32	0.50
tblLandUse	LotAcreage	0.32	0.50
tblLandUse	LotAcreage	0.32	0.49
tblProjectCharacteristics	OperationalYear	2018	2019

2.0 Emissions Summary

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

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	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291
Energy	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
Mobile	0.5221	2.6873	6.9282	0.0222	0.5694	0.0263	0.5957	0.1796	0.0247	0.2043		2,253.5057	2,253.5057	0.1227		2,256.5736
Total	7.9035	3.2502	20.0734	0.0549	0.5694	1.9414	2.5108	0.1796	1.9399	2.1194	234.1730	2,754.5275	2,988.7005	0.8228	0.0168	3,014.2805

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	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291
Energy	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
Mobile	0.5221	2.6873	6.9282	0.0222	0.5694	0.0263	0.5957	0.1796	0.0247	0.2043		2,253.5057	2,253.5057	0.1227		2,256.5736
Total	7.9035	3.2502	20.0734	0.0549	0.5694	1.9414	2.5108	0.1796	1.9399	2.1194	234.1730	2,754.5275	2,988.7005	0.8228	0.0168	3,014.2805

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	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	Demolition	Demolition	10/1/2017	11/10/2017	5	30	
2	Grading	Grading	4/25/2018	7/17/2018	5	60	
3	Building Construction	Building Construction	10/18/2017	10/30/2018	5	270	
4	Infrastructure Installation	Building Construction	2/1/2018	4/25/2018	5	60	
5	Paving	Paving	7/17/2018	7/23/2018	5	5	
6	Architectural Coating	Architectural Coating	7/17/2018	7/23/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 76,545; Residential Outdoor: 25,515; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Infrastructure Installation	Cranes	1	8.00	231	0.29
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Infrastructure Installation	Forklifts	2	7.00	89	0.20
Infrastructure Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Infrastructure Installation	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Building Construction	Welders	3	8.00	46	0.45
Infrastructure Installation	Welders	3	8.00	46	0.45

Trips and VMT

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

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
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	2.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	15.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Infrastructure Installation	8	2.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2017

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					0.1073	0.0000	0.1073	0.0163	0.0000	0.0163			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404		2,421.4229	2,421.4229	0.6125		2,436.7347
Total	2.7625	26.7594	15.5573	0.0241	0.1073	1.6477	1.7549	0.0163	1.5404	1.5566		2,421.4229	2,421.4229	0.6125		2,436.7347

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.2 Demolition - 2017

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	5.3500e-003	0.1725	0.0351	4.0000e-004	8.7300e-003	9.4000e-004	9.6700e-003	2.3900e-003	9.0000e-004	3.2900e-003		42.7228	42.7228	3.3000e-003		42.8052
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	0.0855	0.0632	0.6764	1.5400e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1100e-003	0.0397		152.9111	152.9111	5.8000e-003		153.0562
Total	0.0909	0.2357	0.7115	1.9400e-003	0.1540	2.1500e-003	0.1562	0.0409	2.0100e-003	0.0429		195.6339	195.6339	9.1000e-003		195.8614

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					0.0322	0.0000	0.0322	4.8700e-003	0.0000	4.8700e-003			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404	0.0000	2,421.4229	2,421.4229	0.6125		2,436.7347
Total	2.7625	26.7594	15.5573	0.0241	0.0322	1.6477	1.6798	4.8700e-003	1.5404	1.5452	0.0000	2,421.4229	2,421.4229	0.6125		2,436.7347

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.2 Demolition - 2017

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	5.3500e-003	0.1725	0.0351	4.0000e-004	8.7300e-003	9.4000e-004	9.6700e-003	2.3900e-003	9.0000e-004	3.2900e-003		42.7228	42.7228	3.3000e-003		42.8052
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	0.0855	0.0632	0.6764	1.5400e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1100e-003	0.0397		152.9111	152.9111	5.8000e-003		153.0562
Total	0.0909	0.2357	0.7115	1.9400e-003	0.1540	2.1500e-003	0.1562	0.0409	2.0100e-003	0.0429		195.6339	195.6339	9.1000e-003		195.8614

3.3 Grading - 2018

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					6.0751	0.0000	6.0751	3.3160	0.0000	3.3160			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.4666	2,077.4666	0.6467		2,093.6352
Total	2.1515	24.2895	10.3804	0.0206	6.0751	1.1683	7.2434	3.3160	1.0748	4.3908		2,077.4666	2,077.4666	0.6467		2,093.6352

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.3 Grading - 2018

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	0.0586	0.0423	0.4559	1.1500e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		114.3253	114.3253	3.9200e-003		114.4231
Total	0.0586	0.0423	0.4559	1.1500e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		114.3253	114.3253	3.9200e-003		114.4231

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					1.8225	0.0000	1.8225	0.9948	0.0000	0.9948			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748	0.0000	2,077.4666	2,077.4666	0.6467		2,093.6352
Total	2.1515	24.2895	10.3804	0.0206	1.8225	1.1683	2.9908	0.9948	1.0748	2.0696	0.0000	2,077.4666	2,077.4666	0.6467		2,093.6352

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.3 Grading - 2018

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	0.0586	0.0423	0.4559	1.1500e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		114.3253	114.3253	3.9200e-003		114.4231
Total	0.0586	0.0423	0.4559	1.1500e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		114.3253	114.3253	3.9200e-003		114.4231

3.4 Building Construction - 2017

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	3.3418	23.0287	16.3102	0.0250		1.4697	1.4697		1.4068	1.4068		2,347.6211	2,347.6211	0.5228		2,360.6922
Total	3.3418	23.0287	16.3102	0.0250		1.4697	1.4697		1.4068	1.4068		2,347.6211	2,347.6211	0.5228		2,360.6922

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.4 Building Construction - 2017

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	5.0900e-003	0.1298	0.0377	2.5000e-004	6.4000e-003	1.1400e-003	7.5400e-003	1.8400e-003	1.0900e-003	2.9300e-003		27.0667	27.0667	2.1500e-003		27.1205
Worker	0.0132	9.7200e-003	0.1041	2.4000e-004	0.0224	1.9000e-004	0.0225	5.9300e-003	1.7000e-004	6.1000e-003		23.5248	23.5248	8.9000e-004		23.5471
Total	0.0183	0.1396	0.1417	4.9000e-004	0.0288	1.3300e-003	0.0301	7.7700e-003	1.2600e-003	9.0300e-003		50.5915	50.5915	3.0400e-003		50.6676

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	3.3418	23.0287	16.3102	0.0250		1.4697	1.4697		1.4068	1.4068	0.0000	2,347.6211	2,347.6211	0.5228		2,360.6922
Total	3.3418	23.0287	16.3102	0.0250		1.4697	1.4697		1.4068	1.4068	0.0000	2,347.6211	2,347.6211	0.5228		2,360.6922

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.4 Building Construction - 2017

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	5.0900e-003	0.1298	0.0377	2.5000e-004	6.4000e-003	1.1400e-003	7.5400e-003	1.8400e-003	1.0900e-003	2.9300e-003		27.0667	27.0667	2.1500e-003		27.1205
Worker	0.0132	9.7200e-003	0.1041	2.4000e-004	0.0224	1.9000e-004	0.0225	5.9300e-003	1.7000e-004	6.1000e-003		23.5248	23.5248	8.9000e-004		23.5471
Total	0.0183	0.1396	0.1417	4.9000e-004	0.0288	1.3300e-003	0.0301	7.7700e-003	1.2600e-003	9.0300e-003		50.5915	50.5915	3.0400e-003		50.6676

3.4 Building Construction - 2018

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	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.4 Building Construction - 2018

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	4.4800e-003	0.1218	0.0341	2.5000e-004	6.4000e-003	9.0000e-004	7.3000e-003	1.8400e-003	8.6000e-004	2.7000e-003		26.9641	26.9641	2.0500e-003		27.0153
Worker	0.0117	8.4600e-003	0.0912	2.3000e-004	0.0224	1.8000e-004	0.0225	5.9300e-003	1.7000e-004	6.0900e-003		22.8651	22.8651	7.8000e-004		22.8846
Total	0.0162	0.1302	0.1252	4.8000e-004	0.0288	1.0800e-003	0.0298	7.7700e-003	1.0300e-003	8.7900e-003		49.8292	49.8292	2.8300e-003		49.8999

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	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.4 Building Construction - 2018

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	4.4800e-003	0.1218	0.0341	2.5000e-004	6.4000e-003	9.0000e-004	7.3000e-003	1.8400e-003	8.6000e-004	2.7000e-003		26.9641	26.9641	2.0500e-003		27.0153
Worker	0.0117	8.4600e-003	0.0912	2.3000e-004	0.0224	1.8000e-004	0.0225	5.9300e-003	1.7000e-004	6.0900e-003		22.8651	22.8651	7.8000e-004		22.8846
Total	0.0162	0.1302	0.1252	4.8000e-004	0.0288	1.0800e-003	0.0298	7.7700e-003	1.0300e-003	8.7900e-003		49.8292	49.8292	2.8300e-003		49.8999

3.5 Infrastructure Installation - 2018

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	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.5 Infrastructure Installation - 2018

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	4.4800e-003	0.1218	0.0341	2.5000e-004	6.4000e-003	9.0000e-004	7.3000e-003	1.8400e-003	8.6000e-004	2.7000e-003		26.9641	26.9641	2.0500e-003		27.0153
Worker	0.0117	8.4600e-003	0.0912	2.3000e-004	0.0224	1.8000e-004	0.0225	5.9300e-003	1.7000e-004	6.0900e-003		22.8651	22.8651	7.8000e-004		22.8846
Total	0.0162	0.1302	0.1252	4.8000e-004	0.0288	1.0800e-003	0.0298	7.7700e-003	1.0300e-003	8.7900e-003		49.8292	49.8292	2.8300e-003		49.8999

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	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.5 Infrastructure Installation - 2018

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	4.4800e-003	0.1218	0.0341	2.5000e-004	6.4000e-003	9.0000e-004	7.3000e-003	1.8400e-003	8.6000e-004	2.7000e-003		26.9641	26.9641	2.0500e-003		27.0153
Worker	0.0117	8.4600e-003	0.0912	2.3000e-004	0.0224	1.8000e-004	0.0225	5.9300e-003	1.7000e-004	6.0900e-003		22.8651	22.8651	7.8000e-004		22.8846
Total	0.0162	0.1302	0.1252	4.8000e-004	0.0288	1.0800e-003	0.0298	7.7700e-003	1.0300e-003	8.7900e-003		49.8292	49.8292	2.8300e-003		49.8999

3.6 Paving - 2018

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	1.4046	14.2518	11.9787	0.0178		0.8505	0.8505		0.7836	0.7836		1,774.2430	1,774.2430	0.5419		1,787.7896
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4046	14.2518	11.9787	0.0178		0.8505	0.8505		0.7836	0.7836		1,774.2430	1,774.2430	0.5419		1,787.7896

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.6 Paving - 2018

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	0.0879	0.0635	0.6839	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2400e-003	0.0457		171.4879	171.4879	5.8700e-003		171.6347
Total	0.0879	0.0635	0.6839	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2400e-003	0.0457		171.4879	171.4879	5.8700e-003		171.6347

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	1.4046	14.2518	11.9787	0.0178		0.8505	0.8505		0.7836	0.7836	0.0000	1,774.2430	1,774.2430	0.5419		1,787.7896
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4046	14.2518	11.9787	0.0178		0.8505	0.8505		0.7836	0.7836	0.0000	1,774.2430	1,774.2430	0.5419		1,787.7896

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.6 Paving - 2018

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	0.0879	0.0635	0.6839	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2400e-003	0.0457		171.4879	171.4879	5.8700e-003		171.6347
Total	0.0879	0.0635	0.6839	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2400e-003	0.0457		171.4879	171.4879	5.8700e-003		171.6347

3.7 Architectural Coating - 2018

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	47.3048					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	47.6034	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.7 Architectural Coating - 2018

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

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	47.3048					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	47.6034	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

3.7 Architectural Coating - 2018

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

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	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	0.5221	2.6873	6.9282	0.0222	0.5694	0.0263	0.5957	0.1796	0.0247	0.2043		2,253.5057	2,253.5057	0.1227		2,256.5736
Unmitigated	0.5221	2.6873	6.9282	0.0222	0.5694	0.0263	0.5957	0.1796	0.0247	0.2043		2,253.5057	2,253.5057	0.1227		2,256.5736

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Total	47.60	49.55	43.10	161,412	161,412

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989
Single Family Housing	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989

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	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
NaturalGas Unmitigated	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

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					
Single Family Housing	85.4744	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
Total		4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779

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	0.0854744	4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779
Total		4.6100e-003	0.0394	0.0168	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2791	50.2791	9.6000e-004	9.2000e-004	50.5779

6.0 Area Detail

6.1 Mitigation Measures Area

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	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	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291
Unmitigated	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

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	0.0648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7484					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	6.5509	0.5187	12.7138	0.0324		1.9097	1.9097		1.9097	1.9097	234.1730	450.0000	684.1730	0.6984	0.0159	706.3681
Landscaping	0.0127	4.8000e-003	0.4146	2.0000e-005		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		0.7428	0.7428	7.3000e-004		0.7610
Total	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

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	0.0648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7484					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	6.5509	0.5187	12.7138	0.0324		1.9097	1.9097		1.9097	1.9097	234.1730	450.0000	684.1730	0.6984	0.0159	706.3681
Landscaping	0.0127	4.8000e-003	0.4146	2.0000e-005		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		0.7428	0.7428	7.3000e-004		0.7610
Total	7.3768	0.5235	13.1284	0.0325		1.9120	1.9120		1.9120	1.9120	234.1730	450.7428	684.9157	0.6991	0.0159	707.1291

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
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10.0 Stationary Equipment

Tustin 5 acre lots residential project - South Coast Air Basin, Winter

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation
