
APPENDIX W
ENERGY USE CALCULATIONS

APPENDIX W.1
CONSTRUCTION ENERGY CALCULATIONS

**Table W.1-1
DIESEL FUEL USE BY ONSITE CONSTRUCTION EQUIPMENT**

Construction Phase	Equipment Type	HP	Number	Hours/Day	Daily Factor	Load Factor	No. of Days	HP-hours	Gallons	Total Gallons
Site Preparation and Grading	Excavators	158	1	8	0.6	0.38	250	72,048.00	3,602.40	
	Graders	187	2	8	0.6	0.41	250	184,008.00	9,200.40	
	Off-Highway Trucks	402	2	6	0.6	0.38	250	274,968.00	13,748.40	
	Plate Compactors	8	1	6	0.6	0.43	250	3,096.00	154.80	
	Rubber-Tired Dozers	247	2	8	0.6	0.4	250	237,120.00	11,856.00	
	Tractors/Loaders/Backhoes	97	3	8	0.6	0.37	250	129,204.00	6,460.20	
										45,022
Drainage Improvements	Excavators	158	1	8	0.6	0.38	90	25,937.28	1,296.86	
	Graders	187	1	8	0.6	0.41	90	33,121.44	1,656.07	
	Off-Highway Trucks	402	1	6	0.6	0.38	90	49,494.24	2,474.71	
	Plate Compactors	8	1	6	0.6	0.43	90	1,114.56	55.73	
	Rubber-Tired Dozers	247	1	8	0.6	0.4	90	42,681.60	2,134.08	
	Tractors/Loaders/Backhoes	97	3	8	0.6	0.37	90	46,513.44	2,325.67	
										9,943
Paving and Utilities	Cement and Mortar Mixers	9	2	6	0.6	0.56	90	3,265.92	163.30	
	Pavers	130	1	8	0.6	0.42	90	23,587.20	1,179.36	
	Paving Equipment	132	2	6	0.6	0.36	90	30,792.96	1,539.65	
	Rollers	80	2	6	0.6	0.38	90	19,699.20	984.96	
	Tractors/Loaders/Backhoes	97	1	8	0.6	0.37	90	15,504.48	775.22	
										4,642
Entry Road Paving	Cement and Mortar Mixers	9	2	6	0.6	0.56	18	653.18	32.66	
	Pavers	130	1	8	0.6	0.42	18	4,717.44	235.87	
	Paving Equipment	132	2	6	0.6	0.36	18	6,158.59	307.93	
	Rollers	80	2	6	0.6	0.38	18	3,939.84	196.99	
	Tractors/Loaders/Backhoes	97	1	8	0.6	0.37	18	3,100.90	155.04	
										928
Building Construction	Cranes	231	1	7	0.6	0.29	217	61,054.69	3,052.73	
	Forklifts	89	3	8	0.6	0.2	217	55,621.44	2,781.07	
	Generator Sets	84	1	8	0.6	0.74	217	64,745.86	3,237.29	
	Tractors/Loaders/Backhoes	97	3	7	0.6	0.37	217	98,130.44	4,906.52	
	Welders	46	1	8	0.6	0.45	217	21,561.12	1,078.06	
										15,056
Architectural Coating	Air Compressors	78	1	6	0.6	0.48	18	2,426.11	121.31	
										121
									Total	75,712

Table W.1-2

ELECTRICITY REQUIRED TO PROVIDE WATER FOR DUST CONTROL

Construction Phase	No. of Days	Daily Acreage	Gallons/acre-day	Gallons	kW-hr per Gallon	kW-hr
Site Preparation and Grading	250	5	3,020	3,775,000	0.009727	36,719
Drainage Improvements	90	5	3,020	1,359,000	0.009727	13,219
Total						49,938

**Table W.1-3
CONSTRUCTION ONROAD VEHICLE FUEL USE**

Construction Subphase ^a	Days	Construction Worker Commuting			Vendor Trips			Materials and Waste Hauling Trips		
		Trips per Day	Miles/Trip	VMT	Trips per Day	Miles/Trip	VMT	Trips per Day	Miles/Trip	VMT
Site Preparation and Grading	250	28	14.7	102,900	0	6.9	0	0	20	0
Drainage Improvements	90	20	14.7	26,460	0	6.9	0	0	20	0
Paving and Utilities	90	20	14.7	26,460	0	6.9	0	0	20	0
Entry Road Paving	18	15	14.7	3,969	0	6.9	0	0	20	0
Building Construction	217	5	14.7	15,950	1	6.9	1497.3	0	20	0
Architectural Coating	18	1	14.7	265	0	6.9	0	0	20	0
Total VMT				176,003			1,497			0
Grand Total										177,500

FUEL CALCULATION

	VMT	Gasoline or Diesel	Miles per Gallon ^b	Gallons	
				Gasoline	Gallons Diesel
Workers	176,003.1	Gasoline	26.1	6,743.41	0
Vendors	1,497.3	Diesel	14.7	0	101.86
Haulers	0	Diesel	14.7	0	0
Totals				6,743	102

^aTrips per day and miles per trip were calculated by CalEEMod.

^bComposite miles per gallon for Los Angeles County, from EMFAC2017.

APPENDIX W.2
OPERATIONAL PHASE ENERGY CALCULATIONS

Chadwick Estates - Los Angeles-South Coast County, Annual

Chadwick Estates
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	14.00	Dwelling Unit	4.55	25,200.00	40

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2026
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Chadwick Estates - Los Angeles-South Coast County, Annual

Project Characteristics -

Land Use -

Construction Phase - Construction schedule developed from client information

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Estimated by need

Off-road Equipment -

Grading - Data provided by client

Vehicle Trips - Rates were changed to fit Estate Housing trip rates as presented in San Diego Trip Generation Manual

Woodstoves - Residences assumed to be equipped with NG fireplaces

Off-road Equipment - Estimated by need

Off-road Equipment -

Off-road Equipment -

Architectural Coating -

Construction Off-road Equipment Mitigation - Per SCAQMD Mitigation Measure Table XI-C for local streets

Chadwick Estates - Los Angeles-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	16
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	217.00
tblConstructionPhase	NumDays	8.00	250.00
tblConstructionPhase	NumDays	8.00	90.00
tblConstructionPhase	NumDays	18.00	90.00
tblFireplaces	NumberGas	11.90	14.00
tblFireplaces	NumberNoFireplace	1.40	0.00
tblFireplaces	NumberWood	0.70	0.00
tblGrading	AcresOfGrading	250.00	44.40
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblVehicleTrips	ST_TR	9.91	12.49
tblVehicleTrips	SU_TR	8.62	10.67
tblVehicleTrips	WD_TR	9.52	12.00
tblWoodstoves	NumberCatalytic	0.70	0.00
tblWoodstoves	NumberNoncatalytic	0.70	0.00

2.0 Emissions Summary

Chadwick Estates - Los Angeles-South Coast County, Annual

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					
2022	0.4498	4.4728	2.9579	7.4200e-003	1.3701	0.1910	1.5612	0.7225	0.1758	0.8984	0.0000	651.4778	651.4778	0.2013	0.0000	656.5105
2023	0.2903	2.7053	2.6737	5.4500e-003	0.5637	0.1209	0.6846	0.2808	0.1121	0.3929	0.0000	475.5635	475.5635	0.1356	0.0000	478.9533
2024	0.1693	0.8158	0.9887	1.6700e-003	3.7300e-003	0.0371	0.0408	1.0000e-003	0.0349	0.0359	0.0000	144.3809	144.3809	0.0329	0.0000	145.2032
Maximum	0.4498	4.4728	2.9579	7.4200e-003	1.3701	0.1910	1.5612	0.7225	0.1758	0.8984	0.0000	651.4778	651.4778	0.2013	0.0000	656.5105

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					
2022	0.4498	4.4728	2.9579	7.4200e-003	0.5504	0.1910	0.7414	0.2861	0.1758	0.4620	0.0000	651.4770	651.4770	0.2013	0.0000	656.5098
2023	0.2903	2.7053	2.6737	5.4500e-003	0.2333	0.1209	0.3542	0.1132	0.1121	0.2253	0.0000	475.5630	475.5630	0.1356	0.0000	478.9527
2024	0.1693	0.8158	0.9887	1.6700e-003	3.2300e-003	0.0371	0.0403	8.8000e-004	0.0349	0.0358	0.0000	144.3807	144.3807	0.0329	0.0000	145.2031
Maximum	0.4498	4.4728	2.9579	7.4200e-003	0.5504	0.1910	0.7414	0.2861	0.1758	0.4620	0.0000	651.4770	651.4770	0.2013	0.0000	656.5098

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	ROG	NOx	CO	SO2	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	59.39	0.00	50.32	60.15	0.00	45.52	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2022	6-30-2022	1.4731	1.4731
2	7-1-2022	9-30-2022	1.4893	1.4893
3	10-1-2022	12-31-2022	1.9754	1.9754
4	1-1-2023	3-31-2023	1.7173	1.7173
5	4-1-2023	6-30-2023	0.3195	0.3195
6	7-1-2023	9-30-2023	0.4251	0.4251
7	10-1-2023	12-31-2023	0.5278	0.5278
8	1-1-2024	3-31-2024	0.4881	0.4881
9	4-1-2024	6-30-2024	0.4586	0.4586
10	7-1-2024	9-30-2024	0.0327	0.0327
		Highest	1.9754	1.9754

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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	0.1036	4.5600e-003	0.1455	3.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	3.5978	3.5978	2.9000e-004	6.0000e-005	3.6234
Energy	2.0700e-003	0.0177	7.5400e-003	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	57.1408	57.1408	1.9100e-003	6.9000e-004	57.3938
Mobile	0.0406	0.1971	0.5532	2.3300e-003	0.2157	1.7500e-003	0.2174	0.0578	1.6200e-003	0.0594	0.0000	215.6990	215.6990	9.7600e-003	0.0000	215.9429
Waste						0.0000	0.0000		0.0000	0.0000	3.3291	0.0000	3.3291	0.1967	0.0000	8.2476
Water						0.0000	0.0000		0.0000	0.0000	0.2894	5.8200	6.1093	0.0300	7.5000e-004	7.0824
Total	0.1463	0.2194	0.7062	2.4700e-003	0.2157	4.2200e-003	0.2199	0.0578	4.0900e-003	0.0619	3.6184	282.2575	285.8759	0.2387	1.5000e-003	292.2900

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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	0.1036	4.5600e-003	0.1455	3.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	3.5978	3.5978	2.9000e-004	6.0000e-005	3.6234
Energy	2.0700e-003	0.0177	7.5400e-003	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	57.1408	57.1408	1.9100e-003	6.9000e-004	57.3938
Mobile	0.0406	0.1971	0.5532	2.3300e-003	0.2157	1.7500e-003	0.2174	0.0578	1.6200e-003	0.0594	0.0000	215.6990	215.6990	9.7600e-003	0.0000	215.9429
Waste						0.0000	0.0000		0.0000	0.0000	3.3291	0.0000	3.3291	0.1967	0.0000	8.2476
Water						0.0000	0.0000		0.0000	0.0000	0.2894	5.8200	6.1093	0.0300	7.5000e-004	7.0824
Total	0.1463	0.2194	0.7062	2.4700e-003	0.2157	4.2200e-003	0.2199	0.0578	4.0900e-003	0.0619	3.6184	282.2575	285.8759	0.2387	1.5000e-003	292.2900

	ROG	NOx	CO	SO2	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	4/1/2022	3/16/2023	5	250	
2	Drainage Improvements	Grading	11/11/2022	3/16/2023	5	90	
3	Paving & Utilities	Paving	3/17/2023	7/20/2023	5	90	
4	Entry Road Paving	Paving	7/21/2023	8/15/2023	5	18	
5	Building Construction	Building Construction	8/16/2023	6/13/2024	5	217	
6	Architectural Coating	Architectural Coating	6/14/2024	7/9/2024	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 44.4

Acres of Paving: 0

Residential Indoor: 51,030; Residential Outdoor: 17,010; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Off-Highway Trucks	2	6.00	402	0.38
Grading	Plate Compactors	1	6.00	8	0.43
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Drainage Improvements	Excavators	1	8.00	158	0.38
Drainage Improvements	Graders	1	8.00	187	0.41
Drainage Improvements	Rubber Tired Dozers	1	8.00	247	0.40
Drainage Improvements	Tractors/Loaders/Backhoes	3	8.00	97	0.37

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Paving & Utilities	Cement and Mortar Mixers	2	6.00	9	0.56
Paving & Utilities	Pavers	1	8.00	130	0.42
Paving & Utilities	Paving Equipment	2	6.00	132	0.36
Paving & Utilities	Rollers	2	6.00	80	0.38
Paving & Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Entry Road Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Entry Road Paving	Pavers	1	8.00	130	0.42
Entry Road Paving	Paving Equipment	2	6.00	132	0.36
Entry Road Paving	Rollers	2	6.00	80	0.38
Entry Road Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Drainage Improvements	Plate Compactors	1	8.00	8	0.43
Drainage Improvements	Off-Highway Trucks	1	6.00	402	0.38

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
Grading	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Improvements	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving & Utilities	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Entry Road Paving	8	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	5.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2022

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					1.2039	0.0000	1.2039	0.6514	0.0000	0.6514	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3943	4.0293	2.5257	6.3700e-003		0.1717	0.1717		0.1580	0.1580	0.0000	558.7355	558.7355	0.1802	0.0000	563.2405
Total	0.3943	4.0293	2.5257	6.3700e-003	1.2039	0.1717	1.3755	0.6514	0.1580	0.8093	0.0000	558.7355	558.7355	0.1802	0.0000	563.2405

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3.2 Grading - 2022

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	0.0111	8.3000e-003	0.0956	2.9000e-004	0.0301	2.4000e-004	0.0303	7.9900e-003	2.2000e-004	8.2100e-003	0.0000	26.1820	26.1820	7.2000e-004	0.0000	26.2000
Total	0.0111	8.3000e-003	0.0956	2.9000e-004	0.0301	2.4000e-004	0.0303	7.9900e-003	2.2000e-004	8.2100e-003	0.0000	26.1820	26.1820	7.2000e-004	0.0000	26.2000

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					0.4695	0.0000	0.4695	0.2540	0.0000	0.2540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3943	4.0293	2.5257	6.3700e-003		0.1717	0.1717		0.1580	0.1580	0.0000	558.7348	558.7348	0.1802	0.0000	563.2398
Total	0.3943	4.0293	2.5257	6.3700e-003	0.4695	0.1717	0.6412	0.2540	0.1580	0.4120	0.0000	558.7348	558.7348	0.1802	0.0000	563.2398

Chadwick Estates - Los Angeles-South Coast County, Annual

3.2 Grading - 2022

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	0.0111	8.3000e-003	0.0956	2.9000e-004	0.0259	2.4000e-004	0.0261	6.9600e-003	2.2000e-004	7.1800e-003	0.0000	26.1820	26.1820	7.2000e-004	0.0000	26.2000
Total	0.0111	8.3000e-003	0.0956	2.9000e-004	0.0259	2.4000e-004	0.0261	6.9600e-003	2.2000e-004	7.1800e-003	0.0000	26.1820	26.1820	7.2000e-004	0.0000	26.2000

3.2 Grading - 2023

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					0.3487	0.0000	0.3487	0.1813	0.0000	0.1813	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0963	0.9519	0.6653	1.7600e-003		0.0391	0.0391		0.0360	0.0360	0.0000	153.9751	153.9751	0.0497	0.0000	155.2166
Total	0.0963	0.9519	0.6653	1.7600e-003	0.3487	0.0391	0.3878	0.1813	0.0360	0.2173	0.0000	153.9751	153.9751	0.0497	0.0000	155.2166

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3.2 Grading - 2023

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	2.8700e-003	2.0700e-003	0.0242	8.0000e-005	8.2800e-003	6.0000e-005	8.3500e-003	2.2000e-003	6.0000e-005	2.2600e-003	0.0000	6.9495	6.9495	1.8000e-004	0.0000	6.9539
Total	2.8700e-003	2.0700e-003	0.0242	8.0000e-005	8.2800e-003	6.0000e-005	8.3500e-003	2.2000e-003	6.0000e-005	2.2600e-003	0.0000	6.9495	6.9495	1.8000e-004	0.0000	6.9539

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					0.1360	0.0000	0.1360	0.0707	0.0000	0.0707	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0963	0.9519	0.6653	1.7600e-003		0.0391	0.0391		0.0360	0.0360	0.0000	153.9749	153.9749	0.0497	0.0000	155.2164
Total	0.0963	0.9519	0.6653	1.7600e-003	0.1360	0.0391	0.1751	0.0707	0.0360	0.1067	0.0000	153.9749	153.9749	0.0497	0.0000	155.2164

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3.2 Grading - 2023

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	2.8700e-003	2.0700e-003	0.0242	8.0000e-005	7.1400e-003	6.0000e-005	7.2000e-003	1.9200e-003	6.0000e-005	1.9800e-003	0.0000	6.9495	6.9495	1.8000e-004	0.0000	6.9539
Total	2.8700e-003	2.0700e-003	0.0242	8.0000e-005	7.1400e-003	6.0000e-005	7.2000e-003	1.9200e-003	6.0000e-005	1.9800e-003	0.0000	6.9495	6.9495	1.8000e-004	0.0000	6.9539

3.3 Drainage Improvements - 2022

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					0.1323	0.0000	0.1323	0.0622	0.0000	0.0622	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0429	0.4341	0.3240	7.2000e-004		0.0191	0.0191		0.0176	0.0176	0.0000	63.1253	63.1253	0.0203	0.0000	63.6326
Total	0.0429	0.4341	0.3240	7.2000e-004	0.1323	0.0191	0.1513	0.0622	0.0176	0.0797	0.0000	63.1253	63.1253	0.0203	0.0000	63.6326

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3.3 Drainage Improvements - 2022

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	1.4500e-003	1.0900e-003	0.0125	4.0000e-005	3.9400e-003	3.0000e-005	3.9800e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.4350	3.4350	9.0000e-005	0.0000	3.4373
Total	1.4500e-003	1.0900e-003	0.0125	4.0000e-005	3.9400e-003	3.0000e-005	3.9800e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.4350	3.4350	9.0000e-005	0.0000	3.4373

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					0.0516	0.0000	0.0516	0.0242	0.0000	0.0242	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0429	0.4341	0.3240	7.2000e-004		0.0191	0.0191		0.0176	0.0176	0.0000	63.1253	63.1253	0.0203	0.0000	63.6326
Total	0.0429	0.4341	0.3240	7.2000e-004	0.0516	0.0191	0.0707	0.0242	0.0176	0.0418	0.0000	63.1253	63.1253	0.0203	0.0000	63.6326

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3.3 Drainage Improvements - 2022

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	1.4500e-003	1.0900e-003	0.0125	4.0000e-005	3.4000e-003	3.0000e-005	3.4300e-003	9.1000e-004	3.0000e-005	9.4000e-004	0.0000	3.4350	3.4350	9.0000e-005	0.0000	3.4373
Total	1.4500e-003	1.0900e-003	0.0125	4.0000e-005	3.4000e-003	3.0000e-005	3.4300e-003	9.1000e-004	3.0000e-005	9.4000e-004	0.0000	3.4350	3.4350	9.0000e-005	0.0000	3.4373

3.3 Drainage Improvements - 2023

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					0.1865	0.0000	0.1865	0.0920	0.0000	0.0920	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0575	0.5633	0.4705	1.0800e-003		0.0238	0.0238		0.0219	0.0219	0.0000	94.7204	94.7204	0.0305	0.0000	95.4816
Total	0.0575	0.5633	0.4705	1.0800e-003	0.1865	0.0238	0.2103	0.0920	0.0219	0.1139	0.0000	94.7204	94.7204	0.0305	0.0000	95.4816

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3.3 Drainage Improvements - 2023

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	2.0500e-003	1.4800e-003	0.0173	5.0000e-005	5.9200e-003	5.0000e-005	5.9600e-003	1.5700e-003	4.0000e-005	1.6100e-003	0.0000	4.9639	4.9639	1.3000e-004	0.0000	4.9671
Total	2.0500e-003	1.4800e-003	0.0173	5.0000e-005	5.9200e-003	5.0000e-005	5.9600e-003	1.5700e-003	4.0000e-005	1.6100e-003	0.0000	4.9639	4.9639	1.3000e-004	0.0000	4.9671

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					0.0727	0.0000	0.0727	0.0359	0.0000	0.0359	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0575	0.5633	0.4705	1.0800e-003		0.0238	0.0238		0.0219	0.0219	0.0000	94.7203	94.7203	0.0305	0.0000	95.4815
Total	0.0575	0.5633	0.4705	1.0800e-003	0.0727	0.0238	0.0965	0.0359	0.0219	0.0578	0.0000	94.7203	94.7203	0.0305	0.0000	95.4815

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3.3 Drainage Improvements - 2023

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	2.0500e-003	1.4800e-003	0.0173	5.0000e-005	5.1000e-003	5.0000e-005	5.1400e-003	1.3700e-003	4.0000e-005	1.4100e-003	0.0000	4.9639	4.9639	1.3000e-004	0.0000	4.9671
Total	2.0500e-003	1.4800e-003	0.0173	5.0000e-005	5.1000e-003	5.0000e-005	5.1400e-003	1.3700e-003	4.0000e-005	1.4100e-003	0.0000	4.9639	4.9639	1.3000e-004	0.0000	4.9671

3.4 Paving & Utilities - 2023

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	0.0413	0.3956	0.5486	8.5000e-004		0.0196	0.0196		0.0181	0.0181	0.0000	73.7037	73.7037	0.0232	0.0000	74.2826
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0413	0.3956	0.5486	8.5000e-004		0.0196	0.0196		0.0181	0.0181	0.0000	73.7037	73.7037	0.0232	0.0000	74.2826

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3.4 Paving & Utilities - 2023

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	3.4100e-003	2.4600e-003	0.0288	9.0000e-005	9.8600e-003	8.0000e-005	9.9400e-003	2.6200e-003	7.0000e-005	2.6900e-003	0.0000	8.2732	8.2732	2.1000e-004	0.0000	8.2785
Total	3.4100e-003	2.4600e-003	0.0288	9.0000e-005	9.8600e-003	8.0000e-005	9.9400e-003	2.6200e-003	7.0000e-005	2.6900e-003	0.0000	8.2732	8.2732	2.1000e-004	0.0000	8.2785

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	0.0413	0.3956	0.5486	8.5000e-004		0.0196	0.0196		0.0181	0.0181	0.0000	73.7036	73.7036	0.0232	0.0000	74.2825
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0413	0.3956	0.5486	8.5000e-004		0.0196	0.0196		0.0181	0.0181	0.0000	73.7036	73.7036	0.0232	0.0000	74.2825

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3.4 Paving & Utilities - 2023

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	3.4100e-003	2.4600e-003	0.0288	9.0000e-005	8.4900e-003	8.0000e-005	8.5700e-003	2.2800e-003	7.0000e-005	2.3500e-003	0.0000	8.2732	8.2732	2.1000e-004	0.0000	8.2785
Total	3.4100e-003	2.4600e-003	0.0288	9.0000e-005	8.4900e-003	8.0000e-005	8.5700e-003	2.2800e-003	7.0000e-005	2.3500e-003	0.0000	8.2732	8.2732	2.1000e-004	0.0000	8.2785

3.5 Entry Road Paving - 2023

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	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565

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3.5 Entry Road Paving - 2023

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	5.1000e-004	3.7000e-004	4.3300e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2410	1.2410	3.0000e-005	0.0000	1.2418
Total	5.1000e-004	3.7000e-004	4.3300e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2410	1.2410	3.0000e-005	0.0000	1.2418

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	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565

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3.5 Entry Road Paving - 2023

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	5.1000e-004	3.7000e-004	4.3300e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2900e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.2410	1.2410	3.0000e-005	0.0000	1.2418
Total	5.1000e-004	3.7000e-004	4.3300e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2900e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.2410	1.2410	3.0000e-005	0.0000	1.2418

3.6 Building Construction - 2023

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	0.0771	0.7049	0.7960	1.3200e-003		0.0343	0.0343		0.0323	0.0323	0.0000	113.5843	113.5843	0.0270	0.0000	114.2598
Total	0.0771	0.7049	0.7960	1.3200e-003		0.0343	0.0343		0.0323	0.0323	0.0000	113.5843	113.5843	0.0270	0.0000	114.2598

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3.6 Building Construction - 2023

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	1.1000e-004	3.4700e-003	1.1100e-003	1.0000e-005	3.1000e-004	0.0000	3.1000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	1.1597	1.1597	6.0000e-005	0.0000	1.1613
Worker	9.3000e-004	6.7000e-004	7.8500e-003	2.0000e-005	2.6800e-003	2.0000e-005	2.7100e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	2.2521	2.2521	6.0000e-005	0.0000	2.2536
Total	1.0400e-003	4.1400e-003	8.9600e-003	3.0000e-005	2.9900e-003	2.0000e-005	3.0200e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	3.4119	3.4119	1.2000e-004	0.0000	3.4149

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	0.0771	0.7049	0.7960	1.3200e-003		0.0343	0.0343		0.0323	0.0323	0.0000	113.5842	113.5842	0.0270	0.0000	114.2597
Total	0.0771	0.7049	0.7960	1.3200e-003		0.0343	0.0343		0.0323	0.0323	0.0000	113.5842	113.5842	0.0270	0.0000	114.2597

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3.6 Building Construction - 2023

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	1.1000e-004	3.4700e-003	1.1100e-003	1.0000e-005	2.7000e-004	0.0000	2.8000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	1.1597	1.1597	6.0000e-005	0.0000	1.1613
Worker	9.3000e-004	6.7000e-004	7.8500e-003	2.0000e-005	2.3100e-003	2.0000e-005	2.3300e-003	6.2000e-004	2.0000e-005	6.4000e-004	0.0000	2.2521	2.2521	6.0000e-005	0.0000	2.2536
Total	1.0400e-003	4.1400e-003	8.9600e-003	3.0000e-005	2.5800e-003	2.0000e-005	2.6100e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	3.4119	3.4119	1.2000e-004	0.0000	3.4149

3.6 Building Construction - 2024

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	0.0876	0.7999	0.9619	1.6000e-003		0.0365	0.0365		0.0343	0.0343	0.0000	137.9502	137.9502	0.0326	0.0000	138.7658
Total	0.0876	0.7999	0.9619	1.6000e-003		0.0365	0.0365		0.0343	0.0343	0.0000	137.9502	137.9502	0.0326	0.0000	138.7658

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3.6 Building Construction - 2024

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	1.3000e-004	4.2000e-003	1.3100e-003	1.0000e-005	3.7000e-004	0.0000	3.8000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	1.4027	1.4027	8.0000e-005	0.0000	1.4045
Worker	1.0700e-003	7.4000e-004	8.8800e-003	3.0000e-005	3.2600e-003	2.0000e-005	3.2800e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.6499	2.6499	6.0000e-005	0.0000	2.6516
Total	1.2000e-003	4.9400e-003	0.0102	4.0000e-005	3.6300e-003	2.0000e-005	3.6600e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	4.0526	4.0526	1.4000e-004	0.0000	4.0561

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	0.0876	0.7999	0.9619	1.6000e-003		0.0365	0.0365		0.0343	0.0343	0.0000	137.9501	137.9501	0.0326	0.0000	138.7656
Total	0.0876	0.7999	0.9619	1.6000e-003		0.0365	0.0365		0.0343	0.0343	0.0000	137.9501	137.9501	0.0326	0.0000	138.7656

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3.6 Building Construction - 2024

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	1.3000e-004	4.2000e-003	1.3100e-003	1.0000e-005	3.3000e-004	0.0000	3.4000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	1.4027	1.4027	8.0000e-005	0.0000	1.4045
Worker	1.0700e-003	7.4000e-004	8.8800e-003	3.0000e-005	2.8100e-003	2.0000e-005	2.8300e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.6499	2.6499	6.0000e-005	0.0000	2.6516
Total	1.2000e-003	4.9400e-003	0.0102	4.0000e-005	3.1400e-003	2.0000e-005	3.1700e-003	8.5000e-004	2.0000e-005	8.8000e-004	0.0000	4.0526	4.0526	1.4000e-004	0.0000	4.0561

3.7 Architectural Coating - 2024

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	0.0788					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	0.0805	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012

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3.7 Architectural Coating - 2024

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	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0802	0.0802	0.0000	0.0000	0.0802
Total	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0802	0.0802	0.0000	0.0000	0.0802

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	0.0788					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	0.0805	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012

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3.7 Architectural Coating - 2024

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	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0802	0.0802	0.0000	0.0000	0.0802
Total	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0802	0.0802	0.0000	0.0000	0.0802

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive 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	0.0406	0.1971	0.5532	2.3300e-003	0.2157	1.7500e-003	0.2174	0.0578	1.6200e-003	0.0594	0.0000	215.6990	215.6990	9.7600e-003	0.0000	215.9429
Unmitigated	0.0406	0.1971	0.5532	2.3300e-003	0.2157	1.7500e-003	0.2174	0.0578	1.6200e-003	0.0594	0.0000	215.6990	215.6990	9.7600e-003	0.0000	215.9429

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	168.00	174.86	149.38	568,341	568,341
Total	168.00	174.86	149.38	568,341	568,341

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.544210	0.044379	0.208611	0.117175	0.014456	0.006301	0.020907	0.032661	0.002589	0.001903	0.005267	0.000705	0.000834

5.0 Energy Detail

Historical Energy Use: N

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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	36.6147	36.6147	1.5100e-003	3.1000e-004	36.7457
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36.6147	36.6147	1.5100e-003	3.1000e-004	36.7457
NaturalGas Mitigated	2.0700e-003	0.0177	7.5400e-003	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	20.5261	20.5261	3.9000e-004	3.8000e-004	20.6481
NaturalGas Unmitigated	2.0700e-003	0.0177	7.5400e-003	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	20.5261	20.5261	3.9000e-004	3.8000e-004	20.6481

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					
Single Family Housing	384644	2.0700e-003	0.0177	7.5400e-003	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	20.5261	20.5261	3.9000e-004	3.8000e-004	20.6481
Total		2.0700e-003	0.0177	7.5400e-003	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	20.5261	20.5261	3.9000e-004	3.8000e-004	20.6481

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas 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	384644	2.0700e-003	0.0177	7.5400e-003	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	20.5261	20.5261	3.9000e-004	3.8000e-004	20.6481
Total		2.0700e-003	0.0177	7.5400e-003	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	20.5261	20.5261	3.9000e-004	3.8000e-004	20.6481

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	114916	36.6147	1.5100e-003	3.1000e-004	36.7457
Total		36.6147	1.5100e-003	3.1000e-004	36.7457

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	114916	36.6147	1.5100e-003	3.1000e-004	36.7457
Total		36.6147	1.5100e-003	3.1000e-004	36.7457

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	0.1036	4.5600e-003	0.1455	3.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	3.5978	3.5978	2.9000e-004	6.0000e-005	3.6234
Unmitigated	0.1036	4.5600e-003	0.1455	3.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	3.5978	3.5978	2.9000e-004	6.0000e-005	3.6234

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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	7.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0911					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9000e-003	1.2400e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.3619	3.3619	6.0000e-005	6.0000e-005	3.3819
Landscaping	4.3300e-003	1.6600e-003	0.1442	1.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	0.2358	0.2358	2.3000e-004	0.0000	0.2415
Total	0.1036	4.5600e-003	0.1455	3.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	3.5978	3.5978	2.9000e-004	6.0000e-005	3.6234

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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	7.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0911					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9000e-003	1.2400e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.3619	3.3619	6.0000e-005	6.0000e-005	3.3819
Landscaping	4.3300e-003	1.6600e-003	0.1442	1.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	0.2358	0.2358	2.3000e-004	0.0000	0.2415
Total	0.1036	4.5600e-003	0.1455	3.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	3.5978	3.5978	2.9000e-004	6.0000e-005	3.6234

7.0 Water Detail

7.1 Mitigation Measures Water

Chadwick Estates - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.1093	0.0300	7.5000e-004	7.0824
Unmitigated	6.1093	0.0300	7.5000e-004	7.0824

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.912156 / 0.575055	6.1093	0.0300	7.5000e-004	7.0824
Total		6.1093	0.0300	7.5000e-004	7.0824

Chadwick Estates - Los Angeles-South Coast County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.912156 / 0.575055	6.1093	0.0300	7.5000e-004	7.0824
Total		6.1093	0.0300	7.5000e-004	7.0824

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.3291	0.1967	0.0000	8.2476
Unmitigated	3.3291	0.1967	0.0000	8.2476

Chadwick Estates - Los Angeles-South Coast County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	16.4	3.3291	0.1967	0.0000	8.2476
Total		3.3291	0.1967	0.0000	8.2476

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	16.4	3.3291	0.1967	0.0000	8.2476
Total		3.3291	0.1967	0.0000	8.2476

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Chadwick Estates - Los Angeles-South Coast County, Annual

10.0 Stationary Equipment

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
