

**APPENDIX A:  
AIR EMISSIONS MODELING DATA**

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69kV Underground Cable Replacement - Sacramento County, Annual

**69kV Underground Cable Replacement  
Sacramento County, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	4.85	0.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.5	<b>Precipitation Freq (Days)</b>	58
<b>Climate Zone</b>	6			<b>Operational Year</b>	2022
<b>Utility Company</b>	Sacramento Municipal Utility District				
<b>CO2 Intensity (lb/MWhr)</b>	374.1	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

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Project Characteristics - CO2 intensity factor adjusted to represent SMUD 2020 emission factor.

Land Use - 69kV Underground Cable Replacement. Assumed project disturbance area equal to 2 miles in length, 20 feet wide (maximum excavation width) = 4.85 acres disturbed.

Construction Phase - Construction schedule conservatively assumes all phases would occur continuously at a rate of 80 linear feet per day. For a two mile long project, this equates to 132 working days.

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

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Trips and VMT - CalEEMod generate worker trips. It is assumed that Cable Laying/Vaulting employees are included in the trip estimates for other phases.

Vehicle Trips - The project would not have any operational trips

Energy Use -

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emission Control Practices (BMPs)

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	18.00	132.00
tblConstructionPhase	NumDays	5.00	132.00
tblConstructionPhase	PhaseEndDate	3/3/2021	9/1/2020
tblConstructionPhase	PhaseEndDate	4/15/2020	9/1/2020
tblConstructionPhase	PhaseEndDate	3/29/2021	9/1/2020
tblConstructionPhase	PhaseEndDate	4/3/2020	9/1/2020
tblConstructionPhase	PhaseStartDate	4/16/2020	3/1/2020
tblConstructionPhase	PhaseStartDate	4/4/2020	3/1/2020
tblConstructionPhase	PhaseStartDate	3/4/2021	3/1/2020
tblConstructionPhase	PhaseStartDate	3/28/2020	3/1/2020
tblLandUse	LotAcreage	0.00	4.85
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	590.31	374.1
tblTripsAndVMT	WorkerTripNumber	5.00	18.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00

## 2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2020	5-31-2020	2.0642	2.0642
2	6-1-2020	8-31-2020	2.0641	2.0641
3	9-1-2020	9-30-2020	0.0224	0.0224
		Highest	2.0642	2.0642

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

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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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**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	Site Preparation	Site Preparation	3/1/2020	9/1/2020	5	132	
2	Trenching	Trenching	3/1/2020	9/1/2020	5	132	
3	Cable Laying/Vaulting	Building Construction	3/1/2020	9/1/2020	5	132	
4	Paving	Paving	3/1/2020	9/1/2020	5	132	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**



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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Trenching	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	6.00	80	0.38
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

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Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2020**

**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					0.3975	0.0000	0.3975	0.2185	0.0000	0.2185	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0851	0.8869	0.4232	7.7000e-004		0.0454	0.0454		0.0418	0.0418	0.0000	67.5447	67.5447	0.0219	0.0000	68.0909
<b>Total</b>	<b>0.0851</b>	<b>0.8869</b>	<b>0.4232</b>	<b>7.7000e-004</b>	<b>0.3975</b>	<b>0.0454</b>	<b>0.4429</b>	<b>0.2185</b>	<b>0.0418</b>	<b>0.2603</b>	<b>0.0000</b>	<b>67.5447</b>	<b>67.5447</b>	<b>0.0219</b>	<b>0.0000</b>	<b>68.0909</b>

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**3.2 Site Preparation - 2020**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4200e-003	3.0000e-003	0.0329	9.0000e-005	8.7300e-003	6.0000e-005	8.7900e-003	2.3200e-003	6.0000e-005	2.3800e-003	0.0000	7.7307	7.7307	2.2000e-004	0.0000	7.7362
<b>Total</b>	<b>4.4200e-003</b>	<b>3.0000e-003</b>	<b>0.0329</b>	<b>9.0000e-005</b>	<b>8.7300e-003</b>	<b>6.0000e-005</b>	<b>8.7900e-003</b>	<b>2.3200e-003</b>	<b>6.0000e-005</b>	<b>2.3800e-003</b>	<b>0.0000</b>	<b>7.7307</b>	<b>7.7307</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>7.7362</b>

**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					0.1789	0.0000	0.1789	0.0983	0.0000	0.0983	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0851	0.8869	0.4232	7.7000e-004		0.0454	0.0454		0.0418	0.0418	0.0000	67.5447	67.5447	0.0219	0.0000	68.0908
<b>Total</b>	<b>0.0851</b>	<b>0.8869</b>	<b>0.4232</b>	<b>7.7000e-004</b>	<b>0.1789</b>	<b>0.0454</b>	<b>0.2243</b>	<b>0.0983</b>	<b>0.0418</b>	<b>0.1401</b>	<b>0.0000</b>	<b>67.5447</b>	<b>67.5447</b>	<b>0.0219</b>	<b>0.0000</b>	<b>68.0908</b>

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**3.2 Site Preparation - 2020**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4200e-003	3.0000e-003	0.0329	9.0000e-005	8.7300e-003	6.0000e-005	8.7900e-003	2.3200e-003	6.0000e-005	2.3800e-003	0.0000	7.7307	7.7307	2.2000e-004	0.0000	7.7362
<b>Total</b>	<b>4.4200e-003</b>	<b>3.0000e-003</b>	<b>0.0329</b>	<b>9.0000e-005</b>	<b>8.7300e-003</b>	<b>6.0000e-005</b>	<b>8.7900e-003</b>	<b>2.3200e-003</b>	<b>6.0000e-005</b>	<b>2.3800e-003</b>	<b>0.0000</b>	<b>7.7307</b>	<b>7.7307</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>7.7362</b>

**3.3 Trenching - 2020**

**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	0.1327	1.4636	0.7586	1.5500e-003		0.0665	0.0665		0.0612	0.0612	0.0000	135.9712	135.9712	0.0440	0.0000	137.0706
<b>Total</b>	<b>0.1327</b>	<b>1.4636</b>	<b>0.7586</b>	<b>1.5500e-003</b>		<b>0.0665</b>	<b>0.0665</b>		<b>0.0612</b>	<b>0.0612</b>	<b>0.0000</b>	<b>135.9712</b>	<b>135.9712</b>	<b>0.0440</b>	<b>0.0000</b>	<b>137.0706</b>

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**3.3 Trenching - 2020**

**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	3.6900e-003	2.5000e-003	0.0274	7.0000e-005	7.2700e-003	5.0000e-005	7.3200e-003	1.9300e-003	5.0000e-005	1.9800e-003	0.0000	6.4423	6.4423	1.8000e-004	0.0000	6.4468
<b>Total</b>	<b>3.6900e-003</b>	<b>2.5000e-003</b>	<b>0.0274</b>	<b>7.0000e-005</b>	<b>7.2700e-003</b>	<b>5.0000e-005</b>	<b>7.3200e-003</b>	<b>1.9300e-003</b>	<b>5.0000e-005</b>	<b>1.9800e-003</b>	<b>0.0000</b>	<b>6.4423</b>	<b>6.4423</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>6.4468</b>

**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	0.1327	1.4636	0.7586	1.5500e-003		0.0665	0.0665		0.0612	0.0612	0.0000	135.9710	135.9710	0.0440	0.0000	137.0704
<b>Total</b>	<b>0.1327</b>	<b>1.4636</b>	<b>0.7586</b>	<b>1.5500e-003</b>		<b>0.0665</b>	<b>0.0665</b>		<b>0.0612</b>	<b>0.0612</b>	<b>0.0000</b>	<b>135.9710</b>	<b>135.9710</b>	<b>0.0440</b>	<b>0.0000</b>	<b>137.0704</b>

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**3.3 Trenching - 2020**

**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	3.6900e-003	2.5000e-003	0.0274	7.0000e-005	7.2700e-003	5.0000e-005	7.3200e-003	1.9300e-003	5.0000e-005	1.9800e-003	0.0000	6.4423	6.4423	1.8000e-004	0.0000	6.4468
<b>Total</b>	<b>3.6900e-003</b>	<b>2.5000e-003</b>	<b>0.0274</b>	<b>7.0000e-005</b>	<b>7.2700e-003</b>	<b>5.0000e-005</b>	<b>7.3200e-003</b>	<b>1.9300e-003</b>	<b>5.0000e-005</b>	<b>1.9800e-003</b>	<b>0.0000</b>	<b>6.4423</b>	<b>6.4423</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>6.4468</b>

**3.4 Cable Laying/Vaulting - 2020**

**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	0.0967	0.8519	0.6929	1.2200e-003		0.0456	0.0456		0.0434	0.0434	0.0000	103.6217	103.6217	0.0214	0.0000	104.1559
<b>Total</b>	<b>0.0967</b>	<b>0.8519</b>	<b>0.6929</b>	<b>1.2200e-003</b>		<b>0.0456</b>	<b>0.0456</b>		<b>0.0434</b>	<b>0.0434</b>	<b>0.0000</b>	<b>103.6217</b>	<b>103.6217</b>	<b>0.0214</b>	<b>0.0000</b>	<b>104.1559</b>

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**3.4 Cable Laying/Vaulting - 2020**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**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	0.0967	0.8519	0.6929	1.2200e-003		0.0456	0.0456		0.0434	0.0434	0.0000	103.6215	103.6215	0.0214	0.0000	104.1557
<b>Total</b>	<b>0.0967</b>	<b>0.8519</b>	<b>0.6929</b>	<b>1.2200e-003</b>		<b>0.0456</b>	<b>0.0456</b>		<b>0.0434</b>	<b>0.0434</b>	<b>0.0000</b>	<b>103.6215</b>	<b>103.6215</b>	<b>0.0214</b>	<b>0.0000</b>	<b>104.1557</b>

69kV Underground Cable Replacement - Sacramento County, Annual

**3.4 Cable Laying/Vaulting - 2020**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**3.5 Paving -2020**

**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	0.0546	0.5517	0.5762	8.8000e-004		0.0304	0.0304		0.0280	0.0280	0.0000	76.6614	76.6614	0.0243	0.0000	77.2687
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0546</b>	<b>0.5517</b>	<b>0.5762</b>	<b>8.8000e-004</b>		<b>0.0304</b>	<b>0.0304</b>		<b>0.0280</b>	<b>0.0280</b>	<b>0.0000</b>	<b>76.6614</b>	<b>76.6614</b>	<b>0.0243</b>	<b>0.0000</b>	<b>77.2687</b>



69kV Underground Cable Replacement - Sacramento County, Annual

**3.5 Paving -2020**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9100e-003	3.3300e-003	0.0365	1.0000e-004	9.6900e-003	7.0000e-005	9.7600e-003	2.5800e-003	6.0000e-005	2.6400e-003	0.0000	8.5897	8.5897	2.4000e-004	0.0000	8.5958
<b>Total</b>	<b>4.9100e-003</b>	<b>3.3300e-003</b>	<b>0.0365</b>	<b>1.0000e-004</b>	<b>9.6900e-003</b>	<b>7.0000e-005</b>	<b>9.7600e-003</b>	<b>2.5800e-003</b>	<b>6.0000e-005</b>	<b>2.6400e-003</b>	<b>0.0000</b>	<b>8.5897</b>	<b>8.5897</b>	<b>2.4000e-004</b>	<b>0.0000</b>	<b>8.5958</b>

**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	0.0546	0.5517	0.5762	8.8000e-004		0.0304	0.0304		0.0280	0.0280	0.0000	76.6613	76.6613	0.0243	0.0000	77.2687
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0546</b>	<b>0.5517</b>	<b>0.5762</b>	<b>8.8000e-004</b>		<b>0.0304</b>	<b>0.0304</b>		<b>0.0280</b>	<b>0.0280</b>	<b>0.0000</b>	<b>76.6613</b>	<b>76.6613</b>	<b>0.0243</b>	<b>0.0000</b>	<b>77.2687</b>

69kV Underground Cable Replacement - Sacramento County, Annual

**3.5 Paving -2020**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9100e-003	3.3300e-003	0.0365	1.0000e-004	9.6900e-003	7.0000e-005	9.7600e-003	2.5800e-003	6.0000e-005	2.6400e-003	0.0000	8.5897	8.5897	2.4000e-004	0.0000	8.5958
<b>Total</b>	<b>4.9100e-003</b>	<b>3.3300e-003</b>	<b>0.0365</b>	<b>1.0000e-004</b>	<b>9.6900e-003</b>	<b>7.0000e-005</b>	<b>9.7600e-003</b>	<b>2.5800e-003</b>	<b>6.0000e-005</b>	<b>2.6400e-003</b>	<b>0.0000</b>	<b>8.5897</b>	<b>8.5897</b>	<b>2.4000e-004</b>	<b>0.0000</b>	<b>8.5958</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

69kV Underground Cable Replacement - Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.559527	0.038733	0.206173	0.118029	0.019040	0.005245	0.018552	0.023249	0.002031	0.002054	0.005884	0.000619	0.000865

5.0 Energy Detail

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69kV Underground Cable Replacement - Sacramento County, Annual

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

69kV Underground Cable Replacement - Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

69kV Underground Cable Replacement - Sacramento County, Annual

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**



69kV Underground Cable Replacement - Sacramento County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

69kV Underground Cable Replacement - Sacramento County, Annual

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

69kV Underground Cable Replacement - Sacramento County, Annual

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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69kV Underground Cable Replacement - Sacramento County, Annual

**10.0 Stationary Equipment**

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**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**

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69kV Underground Cable Replacement - Sacramento County, Summer

**69kV Underground Cable Replacement  
Sacramento County, Summer**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	4.85	0.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.5	<b>Precipitation Freq (Days)</b>	58
<b>Climate Zone</b>	6			<b>Operational Year</b>	2022
<b>Utility Company</b>	Sacramento Municipal Utility District				
<b>CO2 Intensity (lb/MWhr)</b>	374.1	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

69kV Underground Cable Replacement - Sacramento County, Summer

Project Characteristics - CO2 intensity factor adjusted to represent SMUD 2020 emission factor.

Land Use - 69kV Underground Cable Replacement. Assumed project disturbance area equal to 2 miles in length, 20 feet wide (maximum excavation width) = 4.85 acres disturbed.

Construction Phase - Construction schedule conservatively assumes all phases would occur continuously at a rate of 80 linear feet per day. For a two mile long project, this equates to 132 working days.

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

Trips and VMT - CalEEMod generate worker trips. It is assumed that Cable Laying/Vaulting employees are included in the trip estimates for other phases.

Vehicle Trips - The project would not have any operational trips

Energy Use -

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emission Control Practices (BMPs)

## 69kV Underground Cable Replacement - Sacramento County, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	18.00	132.00
tblConstructionPhase	NumDays	5.00	132.00
tblConstructionPhase	PhaseEndDate	3/3/2021	9/1/2020
tblConstructionPhase	PhaseEndDate	4/15/2020	9/1/2020
tblConstructionPhase	PhaseEndDate	3/29/2021	9/1/2020
tblConstructionPhase	PhaseEndDate	4/3/2020	9/1/2020
tblConstructionPhase	PhaseStartDate	4/16/2020	3/1/2020
tblConstructionPhase	PhaseStartDate	4/4/2020	3/1/2020
tblConstructionPhase	PhaseStartDate	3/4/2021	3/1/2020
tblConstructionPhase	PhaseStartDate	3/28/2020	3/1/2020
tblLandUse	LotAcreage	0.00	4.85
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	590.31	374.1
tblTripsAndVMT	WorkerTripNumber	5.00	18.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00

## 2.0 Emissions Summary

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69kV Underground Cable Replacement - Sacramento County, 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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.3000e-004</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.3000e-004</b>

69kV Underground Cable Replacement - Sacramento County, 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	Site Preparation	Site Preparation	3/1/2020	9/1/2020	5	132	
2	Trenching	Trenching	3/1/2020	9/1/2020	5	132	
3	Cable Laying/Vaulting	Building Construction	3/1/2020	9/1/2020	5	132	
4	Paving	Paving	3/1/2020	9/1/2020	5	132	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

**OffRoad Equipment**

69kV Underground Cable Replacement - Sacramento County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Trenching	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	6.00	80	0.38
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

69kV Underground Cable Replacement - Sacramento County, Summer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2020**

**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					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331		1,128.1110	1,128.1110	0.3649		1,137.2324
<b>Total</b>	<b>1.2890</b>	<b>13.4374</b>	<b>6.4113</b>	<b>0.0116</b>	<b>6.0221</b>	<b>0.6881</b>	<b>6.7102</b>	<b>3.3102</b>	<b>0.6331</b>	<b>3.9433</b>		<b>1,128.1110</b>	<b>1,128.1110</b>	<b>0.3649</b>		<b>1,137.2324</b>

69kV Underground Cable Replacement - Sacramento County, Summer

**3.2 Site Preparation - 2020**

**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	0.0776	0.0412	0.5877	1.4400e-003	0.1369	9.5000e-004	0.1379	0.0363	8.8000e-004	0.0372		142.8323	142.8323	4.0900e-003		142.9346
<b>Total</b>	<b>0.0776</b>	<b>0.0412</b>	<b>0.5877</b>	<b>1.4400e-003</b>	<b>0.1369</b>	<b>9.5000e-004</b>	<b>0.1379</b>	<b>0.0363</b>	<b>8.8000e-004</b>	<b>0.0372</b>		<b>142.8323</b>	<b>142.8323</b>	<b>4.0900e-003</b>		<b>142.9346</b>

**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					2.7099	0.0000	2.7099	1.4896	0.0000	1.4896			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331	0.0000	1,128.1110	1,128.1110	0.3649		1,137.2324
<b>Total</b>	<b>1.2890</b>	<b>13.4374</b>	<b>6.4113</b>	<b>0.0116</b>	<b>2.7099</b>	<b>0.6881</b>	<b>3.3980</b>	<b>1.4896</b>	<b>0.6331</b>	<b>2.1227</b>	<b>0.0000</b>	<b>1,128.1110</b>	<b>1,128.1110</b>	<b>0.3649</b>		<b>1,137.2324</b>

69kV Underground Cable Replacement - Sacramento County, Summer

**3.2 Site Preparation - 2020**

**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	0.0776	0.0412	0.5877	1.4400e-003	0.1369	9.5000e-004	0.1379	0.0363	8.8000e-004	0.0372		142.8323	142.8323	4.0900e-003		142.9346
<b>Total</b>	<b>0.0776</b>	<b>0.0412</b>	<b>0.5877</b>	<b>1.4400e-003</b>	<b>0.1369</b>	<b>9.5000e-004</b>	<b>0.1379</b>	<b>0.0363</b>	<b>8.8000e-004</b>	<b>0.0372</b>		<b>142.8323</b>	<b>142.8323</b>	<b>4.0900e-003</b>		<b>142.9346</b>

**3.3 Trenching - 2020**

**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	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266		2,270.9481	2,270.9481	0.7345		2,289.3099
<b>Total</b>	<b>2.0098</b>	<b>22.1756</b>	<b>11.4936</b>	<b>0.0234</b>		<b>1.0072</b>	<b>1.0072</b>		<b>0.9266</b>	<b>0.9266</b>		<b>2,270.9481</b>	<b>2,270.9481</b>	<b>0.7345</b>		<b>2,289.3099</b>

69kV Underground Cable Replacement - Sacramento County, Summer

**3.3 Trenching - 2020**

**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	0.0647	0.0343	0.4898	1.2000e-003	0.1141	7.9000e-004	0.1149	0.0303	7.3000e-004	0.0310		119.0269	119.0269	3.4100e-003			119.1122
<b>Total</b>	<b>0.0647</b>	<b>0.0343</b>	<b>0.4898</b>	<b>1.2000e-003</b>	<b>0.1141</b>	<b>7.9000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.3000e-004</b>	<b>0.0310</b>		<b>119.0269</b>	<b>119.0269</b>	<b>3.4100e-003</b>			<b>119.1122</b>

**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	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266	0.0000	2,270.9481	2,270.9481	0.7345			2,289.3099
<b>Total</b>	<b>2.0098</b>	<b>22.1756</b>	<b>11.4936</b>	<b>0.0234</b>		<b>1.0072</b>	<b>1.0072</b>		<b>0.9266</b>	<b>0.9266</b>	<b>0.0000</b>	<b>2,270.9481</b>	<b>2,270.9481</b>	<b>0.7345</b>			<b>2,289.3099</b>

69kV Underground Cable Replacement - Sacramento County, Summer

**3.3 Trenching - 2020**

**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	0.0647	0.0343	0.4898	1.2000e-003	0.1141	7.9000e-004	0.1149	0.0303	7.3000e-004	0.0310		119.0269	119.0269	3.4100e-003		119.1122
<b>Total</b>	<b>0.0647</b>	<b>0.0343</b>	<b>0.4898</b>	<b>1.2000e-003</b>	<b>0.1141</b>	<b>7.9000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.3000e-004</b>	<b>0.0310</b>		<b>119.0269</b>	<b>119.0269</b>	<b>3.4100e-003</b>		<b>119.1122</b>

**3.4 Cable Laying/Vaulting - 2020**

**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	1.4652	12.9070	10.4985	0.0184		0.6908	0.6908		0.6582	0.6582		1,730.6565	1,730.6565	0.3569		1,739.5784
<b>Total</b>	<b>1.4652</b>	<b>12.9070</b>	<b>10.4985</b>	<b>0.0184</b>		<b>0.6908</b>	<b>0.6908</b>		<b>0.6582</b>	<b>0.6582</b>		<b>1,730.6565</b>	<b>1,730.6565</b>	<b>0.3569</b>		<b>1,739.5784</b>



69kV Underground Cable Replacement - Sacramento County, Summer

**3.4 Cable Laying/Vaulting - 2020**

**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
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>			<b>0.0000</b>

**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	1.4652	12.9070	10.4985	0.0184		0.6908	0.6908		0.6582	0.6582	0.0000	1,730.6565	1,730.6565	0.3569			1,739.5784
<b>Total</b>	<b>1.4652</b>	<b>12.9070</b>	<b>10.4985</b>	<b>0.0184</b>		<b>0.6908</b>	<b>0.6908</b>		<b>0.6582</b>	<b>0.6582</b>	<b>0.0000</b>	<b>1,730.6565</b>	<b>1,730.6565</b>	<b>0.3569</b>			<b>1,739.5784</b>

69kV Underground Cable Replacement - Sacramento County, Summer

**3.4 Cable Laying/Vaulting - 2020**

**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
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>			<b>0.0000</b>

**3.5 Paving -2020**

**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	0.8279	8.3584	8.7301	0.0134		0.4603	0.4603		0.4243	0.4243		1,280.3738	1,280.3738	0.4058			1,290.5183
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
<b>Total</b>	<b>0.8279</b>	<b>8.3584</b>	<b>8.7301</b>	<b>0.0134</b>		<b>0.4603</b>	<b>0.4603</b>		<b>0.4243</b>	<b>0.4243</b>		<b>1,280.3738</b>	<b>1,280.3738</b>	<b>0.4058</b>			<b>1,290.5183</b>

69kV Underground Cable Replacement - Sacramento County, Summer

**3.5 Paving -2020**

**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	0.0862	0.0458	0.6530	1.5900e-003	0.1521	1.0600e-003	0.1532	0.0404	9.7000e-004	0.0413		158.7026	158.7026	4.5500e-003		158.8163
<b>Total</b>	<b>0.0862</b>	<b>0.0458</b>	<b>0.6530</b>	<b>1.5900e-003</b>	<b>0.1521</b>	<b>1.0600e-003</b>	<b>0.1532</b>	<b>0.0404</b>	<b>9.7000e-004</b>	<b>0.0413</b>		<b>158.7026</b>	<b>158.7026</b>	<b>4.5500e-003</b>		<b>158.8163</b>

**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	0.8279	8.3584	8.7301	0.0134		0.4603	0.4603		0.4243	0.4243	0.0000	1,280.3738	1,280.3738	0.4058		1,290.5183
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8279</b>	<b>8.3584</b>	<b>8.7301</b>	<b>0.0134</b>		<b>0.4603</b>	<b>0.4603</b>		<b>0.4243</b>	<b>0.4243</b>	<b>0.0000</b>	<b>1,280.3738</b>	<b>1,280.3738</b>	<b>0.4058</b>		<b>1,290.5183</b>

69kV Underground Cable Replacement - Sacramento County, Summer

**3.5 Paving -2020**

**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	0.0862	0.0458	0.6530	1.5900e-003	0.1521	1.0600e-003	0.1532	0.0404	9.7000e-004	0.0413		158.7026	158.7026	4.5500e-003		158.8163
<b>Total</b>	<b>0.0862</b>	<b>0.0458</b>	<b>0.6530</b>	<b>1.5900e-003</b>	<b>0.1521</b>	<b>1.0600e-003</b>	<b>0.1532</b>	<b>0.0404</b>	<b>9.7000e-004</b>	<b>0.0413</b>		<b>158.7026</b>	<b>158.7026</b>	<b>4.5500e-003</b>		<b>158.8163</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

69kV Underground Cable Replacement - Sacramento County, 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.559527	0.038733	0.206173	0.118029	0.019040	0.005245	0.018552	0.023249	0.002031	0.002054	0.005884	0.000619	0.000865

5.0 Energy Detail

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69kV Underground Cable Replacement - Sacramento County, Summer

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

69kV Underground Cable Replacement - Sacramento County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

69kV Underground Cable Replacement - Sacramento County, 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>



69kV Underground Cable Replacement - Sacramento County, Summer

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

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**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**

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69kV Underground Cable Replacement - Sacramento County, Winter

**69kV Underground Cable Replacement  
Sacramento County, Winter**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	4.85	0.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.5	<b>Precipitation Freq (Days)</b>	58
<b>Climate Zone</b>	6			<b>Operational Year</b>	2022
<b>Utility Company</b>	Sacramento Municipal Utility District				
<b>CO2 Intensity (lb/MW hr)</b>	374.1	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

69kV Underground Cable Replacement - Sacramento County, Winter

Project Characteristics - CO2 intensity factor adjusted to represent SMUD 2020 emission factor.

Land Use - 69kV Underground Cable Replacement. Assumed project disturbance area equal to 2 miles in length, 20 feet wide (maximum excavation width) = 4.85 acres disturbed.

Construction Phase - Construction schedule conservatively assumes all phases would occur continuously at a rate of 80 linear feet per day. For a two mile long project, this equates to 132 working days.

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

Off-road Equipment - Units adjusted to reflect site area constraints for each day of construction

Trips and VMT - CalEEMod generate worker trips. It is assumed that Cable Laying/Vaulting employees are included in the trip estimates for other phases.

Vehicle Trips - The project would not have any operational trips

Energy Use -

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emission Control Practices (BMPs)

## 69kV Underground Cable Replacement - Sacramento County, Winter

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	18.00	132.00
tblConstructionPhase	NumDays	5.00	132.00
tblConstructionPhase	PhaseEndDate	3/3/2021	9/1/2020
tblConstructionPhase	PhaseEndDate	4/15/2020	9/1/2020
tblConstructionPhase	PhaseEndDate	3/29/2021	9/1/2020
tblConstructionPhase	PhaseEndDate	4/3/2020	9/1/2020
tblConstructionPhase	PhaseStartDate	4/16/2020	3/1/2020
tblConstructionPhase	PhaseStartDate	4/4/2020	3/1/2020
tblConstructionPhase	PhaseStartDate	3/4/2021	3/1/2020
tblConstructionPhase	PhaseStartDate	3/28/2020	3/1/2020
tblLandUse	LotAcreage	0.00	4.85
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	590.31	374.1
tblTripsAndVMT	WorkerTripNumber	5.00	18.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00

## 2.0 Emissions Summary

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69kV Underground Cable Replacement - Sacramento County, 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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.3000e-004</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.3000e-004</b>

69kV Underground Cable Replacement - Sacramento County, 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	Site Preparation	Site Preparation	3/1/2020	9/1/2020	5	132	
2	Trenching	Trenching	3/1/2020	9/1/2020	5	132	
3	Cable Laying/Vaulting	Building Construction	3/1/2020	9/1/2020	5	132	
4	Paving	Paving	3/1/2020	9/1/2020	5	132	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

**OffRoad Equipment**

69kV Underground Cable Replacement - Sacramento County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Trenching	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	6.00	80	0.38
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**



69kV Underground Cable Replacement - Sacramento County, Winter

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2020**

**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					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331		1,128.1110	1,128.1110	0.3649		1,137.2324
<b>Total</b>	<b>1.2890</b>	<b>13.4374</b>	<b>6.4113</b>	<b>0.0116</b>	<b>6.0221</b>	<b>0.6881</b>	<b>6.7102</b>	<b>3.3102</b>	<b>0.6331</b>	<b>3.9433</b>		<b>1,128.1110</b>	<b>1,128.1110</b>	<b>0.3649</b>		<b>1,137.2324</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**3.2 Site Preparation - 2020**

**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	0.0714	0.0509	0.5032	1.2600e-003	0.1369	9.5000e-004	0.1379	0.0363	8.8000e-004	0.0372		125.4399	125.4399	3.6100e-003		125.5301
<b>Total</b>	<b>0.0714</b>	<b>0.0509</b>	<b>0.5032</b>	<b>1.2600e-003</b>	<b>0.1369</b>	<b>9.5000e-004</b>	<b>0.1379</b>	<b>0.0363</b>	<b>8.8000e-004</b>	<b>0.0372</b>		<b>125.4399</b>	<b>125.4399</b>	<b>3.6100e-003</b>		<b>125.5301</b>

**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					2.7099	0.0000	2.7099	1.4896	0.0000	1.4896			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331	0.0000	1,128.1110	1,128.1110	0.3649		1,137.2324
<b>Total</b>	<b>1.2890</b>	<b>13.4374</b>	<b>6.4113</b>	<b>0.0116</b>	<b>2.7099</b>	<b>0.6881</b>	<b>3.3980</b>	<b>1.4896</b>	<b>0.6331</b>	<b>2.1227</b>	<b>0.0000</b>	<b>1,128.1110</b>	<b>1,128.1110</b>	<b>0.3649</b>		<b>1,137.2324</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**3.2 Site Preparation - 2020**

**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	0.0714	0.0509	0.5032	1.2600e-003	0.1369	9.5000e-004	0.1379	0.0363	8.8000e-004	0.0372		125.4399	125.4399	3.6100e-003		125.5301
<b>Total</b>	<b>0.0714</b>	<b>0.0509</b>	<b>0.5032</b>	<b>1.2600e-003</b>	<b>0.1369</b>	<b>9.5000e-004</b>	<b>0.1379</b>	<b>0.0363</b>	<b>8.8000e-004</b>	<b>0.0372</b>		<b>125.4399</b>	<b>125.4399</b>	<b>3.6100e-003</b>		<b>125.5301</b>

**3.3 Trenching - 2020**

**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	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266		2,270.9481	2,270.9481	0.7345		2,289.3099
<b>Total</b>	<b>2.0098</b>	<b>22.1756</b>	<b>11.4936</b>	<b>0.0234</b>		<b>1.0072</b>	<b>1.0072</b>		<b>0.9266</b>	<b>0.9266</b>		<b>2,270.9481</b>	<b>2,270.9481</b>	<b>0.7345</b>		<b>2,289.3099</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**3.3 Trenching - 2020**

**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	0.0595	0.0424	0.4194	1.0500e-003	0.1141	7.9000e-004	0.1149	0.0303	7.3000e-004	0.0310		104.5333	104.5333	3.0100e-003		104.6084
<b>Total</b>	<b>0.0595</b>	<b>0.0424</b>	<b>0.4194</b>	<b>1.0500e-003</b>	<b>0.1141</b>	<b>7.9000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.3000e-004</b>	<b>0.0310</b>		<b>104.5333</b>	<b>104.5333</b>	<b>3.0100e-003</b>		<b>104.6084</b>

**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	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266	0.0000	2,270.9481	2,270.9481	0.7345		2,289.3099
<b>Total</b>	<b>2.0098</b>	<b>22.1756</b>	<b>11.4936</b>	<b>0.0234</b>		<b>1.0072</b>	<b>1.0072</b>		<b>0.9266</b>	<b>0.9266</b>	<b>0.0000</b>	<b>2,270.9481</b>	<b>2,270.9481</b>	<b>0.7345</b>		<b>2,289.3099</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**3.3 Trenching - 2020**

**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	0.0595	0.0424	0.4194	1.0500e-003	0.1141	7.9000e-004	0.1149	0.0303	7.3000e-004	0.0310		104.5333	104.5333	3.0100e-003		104.6084
<b>Total</b>	<b>0.0595</b>	<b>0.0424</b>	<b>0.4194</b>	<b>1.0500e-003</b>	<b>0.1141</b>	<b>7.9000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.3000e-004</b>	<b>0.0310</b>		<b>104.5333</b>	<b>104.5333</b>	<b>3.0100e-003</b>		<b>104.6084</b>

**3.4 Cable Laying/Vaulting - 2020**

**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	1.4652	12.9070	10.4985	0.0184		0.6908	0.6908		0.6582	0.6582		1,730.6565	1,730.6565	0.3569		1,739.5784
<b>Total</b>	<b>1.4652</b>	<b>12.9070</b>	<b>10.4985</b>	<b>0.0184</b>		<b>0.6908</b>	<b>0.6908</b>		<b>0.6582</b>	<b>0.6582</b>		<b>1,730.6565</b>	<b>1,730.6565</b>	<b>0.3569</b>		<b>1,739.5784</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**3.4 Cable Laying/Vaulting - 2020**

**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
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>			<b>0.0000</b>

**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	1.4652	12.9070	10.4985	0.0184		0.6908	0.6908		0.6582	0.6582	0.0000	1,730.6565	1,730.6565	0.3569			1,739.5784
<b>Total</b>	<b>1.4652</b>	<b>12.9070</b>	<b>10.4985</b>	<b>0.0184</b>		<b>0.6908</b>	<b>0.6908</b>		<b>0.6582</b>	<b>0.6582</b>	<b>0.0000</b>	<b>1,730.6565</b>	<b>1,730.6565</b>	<b>0.3569</b>			<b>1,739.5784</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**3.4 Cable Laying/Vaulting - 2020**

**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
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

**3.5 Paving -2020**

**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	0.8279	8.3584	8.7301	0.0134		0.4603	0.4603		0.4243	0.4243		1,280.3738	1,280.3738	0.4058		1,290.5183
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8279</b>	<b>8.3584</b>	<b>8.7301</b>	<b>0.0134</b>		<b>0.4603</b>	<b>0.4603</b>		<b>0.4243</b>	<b>0.4243</b>		<b>1,280.3738</b>	<b>1,280.3738</b>	<b>0.4058</b>		<b>1,290.5183</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**3.5 Paving -2020**

**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	0.0794	0.0565	0.5591	1.4000e-003	0.1521	1.0600e-003	0.1532	0.0404	9.7000e-004	0.0413		139.3777	139.3777	4.0100e-003		139.4779
<b>Total</b>	<b>0.0794</b>	<b>0.0565</b>	<b>0.5591</b>	<b>1.4000e-003</b>	<b>0.1521</b>	<b>1.0600e-003</b>	<b>0.1532</b>	<b>0.0404</b>	<b>9.7000e-004</b>	<b>0.0413</b>		<b>139.3777</b>	<b>139.3777</b>	<b>4.0100e-003</b>		<b>139.4779</b>

**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	0.8279	8.3584	8.7301	0.0134		0.4603	0.4603		0.4243	0.4243	0.0000	1,280.3738	1,280.3738	0.4058		1,290.5183
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8279</b>	<b>8.3584</b>	<b>8.7301</b>	<b>0.0134</b>		<b>0.4603</b>	<b>0.4603</b>		<b>0.4243</b>	<b>0.4243</b>	<b>0.0000</b>	<b>1,280.3738</b>	<b>1,280.3738</b>	<b>0.4058</b>		<b>1,290.5183</b>



69kV Underground Cable Replacement - Sacramento County, Winter

**3.5 Paving -2020**

**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	0.0794	0.0565	0.5591	1.4000e-003	0.1521	1.0600e-003	0.1532	0.0404	9.7000e-004	0.0413		139.3777	139.3777	4.0100e-003		139.4779
<b>Total</b>	<b>0.0794</b>	<b>0.0565</b>	<b>0.5591</b>	<b>1.4000e-003</b>	<b>0.1521</b>	<b>1.0600e-003</b>	<b>0.1532</b>	<b>0.0404</b>	<b>9.7000e-004</b>	<b>0.0413</b>		<b>139.3777</b>	<b>139.3777</b>	<b>4.0100e-003</b>		<b>139.4779</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

69kV Underground Cable Replacement - Sacramento County, 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.559527	0.038733	0.206173	0.118029	0.019040	0.005245	0.018552	0.023249	0.002031	0.002054	0.005884	0.000619	0.000865

5.0 Energy Detail

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69kV Underground Cable Replacement - Sacramento County, Winter

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

69kV Underground Cable Replacement - Sacramento County, 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

69kV Underground Cable Replacement - Sacramento County, Winter

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

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**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**

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