

Attachment A

Response to #15

Updated Air Quality Calculations

Sanger Substation Expansion Project
Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	7.00	0.00	0
Other Non-Asphalt Surfaces	0.00		11.00		0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on PEA, Section 2.0 Project Description, substation expansion will occur on 7 acres and will result in temporary disturbance to 11 acres.

Construction Phase - Based on Construction Equipment and Schedule by Phase table developed by PGE.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table. Puller and tensioner under "Other General Industrial Equipment."

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Trips and VMT - Trip information taken from Table 3.16-3: Estimated Truck Trips.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	300.00	66.00
tblConstructionPhase	NumDays	300.00	261.00
tblConstructionPhase	NumDays	30.00	66.00
tblConstructionPhase	NumDays	30.00	44.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	23.00
tblConstructionPhase	PhaseEndDate	10/31/2018	4/30/2018
tblConstructionPhase	PhaseEndDate	12/3/2018	12/31/2018
tblConstructionPhase	PhaseStartDate	9/1/2018	3/1/2018
tblConstructionPhase	PhaseStartDate	9/1/2018	10/1/2018
tblConstructionPhase	PhaseStartDate	6/30/2018	7/1/2018

tblGrading	AcresOfGrading	99.00	7.00
tblGrading	AcresOfGrading	66.00	4.11
tblLandUse	LotAcreage	0.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	224.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	22.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	20.00	60.00
tblTripsAndVMT	WorkerTripNumber	0.00	60.00
tblTripsAndVMT	WorkerTripNumber	0.00	60.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	33.00	60.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.2814	2.6243	2.2905	3.8600e-003	0.0941	0.1450	0.2391	0.0246	0.1348	0.1594	0.0000	334.5546	334.5546	0.0710	0.0000	336.0453
2018	0.3945	3.7817	3.2798	5.6300e-003	0.1068	0.2051	0.3119	0.0283	0.1907	0.2190	0.0000	486.0469	486.0469	0.1083	0.0000	488.3222
Total	0.6759	6.4061	5.5703	9.4900e-003	0.2009	0.3501	0.5510	0.0529	0.3255	0.3784	0.0000	820.6015	820.6015	0.1793	0.0000	824.3674

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					
2017	0.2814	2.6243	2.2905	3.8600e-003	0.0941	0.1450	0.2391	0.0246	0.1348	0.1594	0.0000	334.5543	334.5543	0.0710	0.0000	336.0450
2018	0.3945	3.7817	3.2798	5.6300e-003	0.1068	0.2051	0.3119	0.0283	0.1907	0.2190	0.0000	486.0465	486.0465	0.1083	0.0000	488.3217
Total	0.6759	6.4061	5.5703	9.4900e-003	0.2009	0.3501	0.5510	0.0529	0.3255	0.3784	0.0000	820.6008	820.6008	0.1793	0.0000	824.3667

	ROG	NOx	CO	SO2	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

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	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	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	Phase 1-Substation Grading and Access	Grading	3/1/2017	5/31/2017	5	66	
2	Phase 2-Substation Foundations and Footings	Building Construction	6/1/2017	8/31/2017	5	66	
3	Phase 3-Substation Equipment Installation	Building Construction	9/1/2017	8/31/2018	5	261	
4	Phase 4a-Power line re-route: Install TSP Foundations	Paving	3/1/2018	4/30/2018	5	43	
5	Phase 4b-Power line re-route: Install TSP	Grading	5/1/2018	6/29/2018	5	44	
6	Phase 4c-Power line re-route: String Power line	Site Preparation	7/1/2018	7/31/2018	5	22	
7	Phase 4d-Power line re-route: Remove pull site and restore property	Site Preparation	8/1/2018	8/31/2018	5	23	
8	Phase 5: Equipment Removal and Clean-up	Paving	10/1/2018	12/31/2018	5	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1-Substation Grading and Access	Excavators	0	8.00	162	0.38
Phase 1-Substation Grading and Access	Graders	1	8.00	174	0.41
Phase 1-Substation Grading and Access	Other Construction Equipment	1	8.00	171	0.42
Phase 1-Substation Grading and Access	Plate Compactors	1	8.00	8	0.43
Phase 1-Substation Grading and Access	Rollers	1	8.00	80	0.38
Phase 1-Substation Grading and Access	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1-Substation Grading and Access	Scrapers	1	8.00	361	0.48

Phase 1-Substation Grading and Access	Skid Steer Loaders	1	8.00	64	0.37
Phase 1-Substation Grading and Access	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2-Substation Foundations and Footings	Air Compressors	1	8.00	78	0.48
Phase 2-Substation Foundations and Footings	Bore/Drill Rigs	1	8.00	205	0.50
Phase 2-Substation Foundations and Footings	Cranes	0	7.00	226	0.29
Phase 2-Substation Foundations and Footings	Excavators	1	8.00	162	0.38
Phase 2-Substation Foundations and Footings	Forklifts	1	8.00	89	0.20
Phase 2-Substation Foundations and Footings	Generator Sets	0	8.00	84	0.74
Phase 2-Substation Foundations and Footings	Skid Steer Loaders	2	8.00	64	0.37
Phase 2-Substation Foundations and Footings	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 2-Substation Foundations and Footings	Welders	0	8.00	46	0.45
Phase 3-Substation Equipment Installation	Air Compressors	1	8.00	78	0.48
Phase 3-Substation Equipment Installation	Cranes	0	7.00	226	0.29
Phase 3-Substation Equipment Installation	Forklifts	1	8.00	89	0.20
Phase 3-Substation Equipment Installation	Generator Sets	0	8.00	84	0.74
Phase 3-Substation Equipment Installation	Other General Industrial Equipment	1	8.00	87	0.34
Phase 3-Substation Equipment Installation	Skid Steer Loaders	1	8.00	64	0.37
Phase 3-Substation Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 3-Substation Equipment Installation	Welders	0	8.00	46	0.45
Phase 4a-Power line re-route: Install TSP Foundations	Bore/Drill Rigs	1	8.00	205	0.50
Phase 4a-Power line re-route: Install TSP Foundations	Cranes	1	8.00	226	0.29
Phase 4a-Power line re-route: Install TSP Foundations	Forklifts	0	8.00	89	0.20
Phase 4a-Power line re-route: Install TSP Foundations	Generator Sets	0	8.00	84	0.74

Phase 4a-Power line re-route: Install TSP Foundations	Skid Steer Loaders	1	8.00	64	0.37
Phase 4a-Power line re-route: Install TSP Foundations	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Phase 4a-Power line re-route: Install TSP Foundations	Welders	0	8.00	46	0.45
Phase 4b-Power line re-route: Install TSP	Aerial Lifts	1	8.00	62	0.31
Phase 4b-Power line re-route: Install TSP	Graders	1	8.00	174	0.41
Phase 4b-Power line re-route: Install TSP	Other Construction Equipment	1	8.00	171	0.42
Phase 4b-Power line re-route: Install TSP	Pavers	0	8.00	125	0.42
Phase 4b-Power line re-route: Install TSP	Paving Equipment	0	8.00	130	0.36
Phase 4b-Power line re-route: Install TSP	Plate Compactors	1	8.00	8	0.43
Phase 4b-Power line re-route: Install TSP	Rollers	1	8.00	80	0.38
Phase 4b-Power line re-route: Install TSP	Scrapers	1	8.00	361	0.48
Phase 4b-Power line re-route: Install TSP	Skid Steer Loaders	1	8.00	64	0.37
Phase 4c-Power line re-route: String Power line	Aerial Lifts	1	8.00	62	0.31
Phase 4c-Power line re-route: String Power line	Air Compressors	0	6.00	78	0.48
Phase 4c-Power line re-route: String Power line	Cranes	1	8.00	226	0.29
Phase 4c-Power line re-route: String Power line	Forklifts	1	8.00	89	0.20
Phase 4c-Power line re-route: String Power line	Other General Industrial Equipment	2	8.00	87	0.34
Phase 4d-Power line re-route: Remove pull site and restore property	Skid Steer Loaders	1	8.00	64	0.37
Phase 4d-Power line re-route: Remove pull site and restore property	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Phase 5: Equipment Removal and Clean-up	Air Compressors	1	8.00	78	0.48
Phase 5: Equipment Removal and Clean-up	Forklifts	1	8.00	89	0.20
Phase 5: Equipment Removal and Clean-up	Graders	1	8.00	174	0.41
Phase 5: Equipment Removal and Clean-up	Other Construction Equipment	1	8.00	171	0.42
Phase 5: Equipment Removal and Clean-up	Pavers	1	8.00	125	0.42

Phase 5: Equipment Removal and Clean-up	Plate Compactors	1	8.00	8	0.43
Phase 5: Equipment Removal and Clean-up	Rollers	1	8.00	80	0.38
Phase 5: Equipment Removal and Clean-up	Scrapers	1	8.00	361	0.48
Phase 5: Equipment Removal and Clean-up	Skid Steer Loaders	2	8.00	64	0.37
Phase 5: Equipment Removal and Clean-up	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1-Substation Grading and Access	8	60.00	16.00	18.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2-Substation Foundations and Footing	7	60.00	16.00	12.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3-Substation Equipment Installation	4	60.00	10.00	8.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4a-Power line re-route. Install TSP. Eo	3	0.00	8.00	4.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4b-Power line re-route. Install TSP	7	0.00	22.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4c-Power line re-route. String Power li	5	0.00	8.00	6.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4d-Power line re-route. Remove pull e	4	0.00	12.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5: Equipment Removal and Clean-up	13	60.00	12.00	224.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction**Clean Paved Roads**

3.2 Phase 1-Substation Grading and Access - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7100e-003	0.0000	3.7100e-003	4.0000e-004	0.0000	4.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1312	1.4366	0.9121	1.2700e-003		0.0764	0.0764		0.0703	0.0703	0.0000	117.8456	117.8456	0.0359	0.0000	118.5995
Total	0.1312	1.4366	0.9121	1.2700e-003	3.7100e-003	0.0764	0.0801	4.0000e-004	0.0703	0.0707	0.0000	117.8456	117.8456	0.0359	0.0000	118.5995

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	1.9000e-004	2.1000e-003	2.1200e-003	1.0000e-005	1.5000e-004	3.0000e-005	1.9000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	0.6044	0.6044	0.0000	0.0000	0.6045
Vendor	5.9700e-003	0.0431	0.0713	1.1000e-004	3.1100e-003	7.0000e-004	3.8100e-003	8.9000e-004	6.5000e-004	1.5400e-003	0.0000	10.2108	10.2108	9.0000e-005	0.0000	10.2126
Worker	7.3000e-003	0.0124	0.1184	2.8000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003	0.0000	20.3084	20.3084	1.0100e-003	0.0000	20.3295
Total	0.0135	0.0576	0.1919	4.0000e-004	0.0279	8.9000e-004	0.0288	7.4700e-003	8.3000e-004	8.3000e-003	0.0000	31.1236	31.1236	1.1000e-003	0.0000	31.1466

3.2 Phase 1-Substation Grading and Access - 2017**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					3.7100e-003	0.0000	3.7100e-003	4.0000e-004	0.0000	4.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1312	1.4366	0.9121	1.2700e-003		0.0764	0.0764		0.0703	0.0703	0.0000	117.8454	117.8454	0.0359	0.0000	118.5993
Total	0.1312	1.4366	0.9121	1.2700e-003	3.7100e-003	0.0764	0.0801	4.0000e-004	0.0703	0.0707	0.0000	117.8454	117.8454	0.0359	0.0000	118.5993

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	1.9000e-004	2.1000e-003	2.1200e-003	1.0000e-005	1.5000e-004	3.0000e-005	1.9000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	0.6044	0.6044	0.0000	0.0000	0.6045
Vendor	5.9700e-003	0.0431	0.0713	1.1000e-004	3.1100e-003	7.0000e-004	3.8100e-003	8.9000e-004	6.5000e-004	1.5400e-003	0.0000	10.2108	10.2108	9.0000e-005	0.0000	10.2126
Worker	7.3000e-003	0.0124	0.1184	2.8000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003	0.0000	20.3084	20.3084	1.0100e-003	0.0000	20.3295
Total	0.0135	0.0576	0.1919	4.0000e-004	0.0279	8.9000e-004	0.0288	7.4700e-003	8.3000e-004	8.3000e-003	0.0000	31.1236	31.1236	1.1000e-003	0.0000	31.1466

3.3 Phase 2-Substation Foundations and Footings - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0614	0.6304	0.4725	8.8000e-004		0.0359	0.0359		0.0336	0.0336	0.0000	80.8478	80.8478	0.0225	0.0000	81.3206
Total	0.0614	0.6304	0.4725	8.8000e-004		0.0359	0.0359		0.0336	0.0336	0.0000	80.8478	80.8478	0.0225	0.0000	81.3206

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	1.3000e-004	1.4000e-003	1.4100e-003	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4029	0.4029	0.0000	0.0000	0.4030
Vendor	5.9700e-003	0.0431	0.0713	1.1000e-004	3.1100e-003	7.0000e-004	3.8100e-003	8.9000e-004	6.5000e-004	1.5400e-003	0.0000	10.2108	10.2108	9.0000e-005	0.0000	10.2126
Worker	7.3000e-003	0.0124	0.1184	2.8000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003	0.0000	20.3084	20.3084	1.0100e-003	0.0000	20.3295
Total	0.0134	0.0569	0.1912	3.9000e-004	0.0278	8.8000e-004	0.0287	7.4600e-003	8.2000e-004	8.2800e-003	0.0000	30.9221	30.9221	1.1000e-003	0.0000	30.9451

3.3 Phase 2-Substation Foundations and Footings - 2017

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	0.0614	0.6304	0.4725	8.8000e-004		0.0359	0.0359		0.0336	0.0336	0.0000	80.8477	80.8477	0.0225	0.0000	81.3205
Total	0.0614	0.6304	0.4725	8.8000e-004		0.0359	0.0359		0.0336	0.0336	0.0000	80.8477	80.8477	0.0225	0.0000	81.3205

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	1.3000e-004	1.4000e-003	1.4100e-003	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4029	0.4029	0.0000	0.0000	0.4030
Vendor	5.9700e-003	0.0431	0.0713	1.1000e-004	3.1100e-003	7.0000e-004	3.8100e-003	8.9000e-004	6.5000e-004	1.5400e-003	0.0000	10.2108	10.2108	9.0000e-005	0.0000	10.2126
Worker	7.3000e-003	0.0124	0.1184	2.8000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003	0.0000	20.3084	20.3084	1.0100e-003	0.0000	20.3295
Total	0.0134	0.0569	0.1912	3.9000e-004	0.0278	8.8000e-004	0.0287	7.4600e-003	8.2000e-004	8.2800e-003	0.0000	30.9221	30.9221	1.1000e-003	0.0000	30.9451

3.4 Phase 3-Substation Equipment Installation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0475	0.3912	0.3101	4.3000e-004		0.0301	0.0301		0.0285	0.0285	0.0000	38.9490	38.9490	8.9900e-003	0.0000	39.1379
Total	0.0475	0.3912	0.3101	4.3000e-004		0.0301	0.0301		0.0285	0.0285	0.0000	38.9490	38.9490	8.9900e-003	0.0000	39.1379

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	3.0000e-005	3.1000e-004	3.1000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0885	0.0885	0.0000	0.0000	0.0885
Vendor	4.8600e-003	0.0351	0.0581	9.0000e-005	2.5300e-003	5.7000e-004	3.1000e-003	7.2000e-004	5.3000e-004	1.2500e-003	0.0000	8.3157	8.3157	7.0000e-005	0.0000	8.3171
Worker	9.5200e-003	0.0162	0.1543	3.7000e-004	0.0321	2.1000e-004	0.0323	8.5200e-003	2.0000e-004	8.7200e-003	0.0000	26.4624	26.4624	1.3100e-003	0.0000	26.4900
Total	0.0144	0.0516	0.2127	4.6000e-004	0.0347	7.8000e-004	0.0354	9.2500e-003	7.3000e-004	9.9900e-003	0.0000	34.8666	34.8666	1.3800e-003	0.0000	34.8956

3.4 Phase 3-Substation Equipment Installation - 2017

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	0.0475	0.3912	0.3101	4.3000e-004		0.0301	0.0301		0.0285	0.0285	0.0000	38.9490	38.9490	8.9900e-003	0.0000	39.1378
Total	0.0475	0.3912	0.3101	4.3000e-004		0.0301	0.0301		0.0285	0.0285	0.0000	38.9490	38.9490	8.9900e-003	0.0000	39.1378

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	3.0000e-005	3.1000e-004	3.1000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0885	0.0885	0.0000	0.0000	0.0885
Vendor	4.8600e-003	0.0351	0.0581	9.0000e-005	2.5300e-003	5.7000e-004	3.1000e-003	7.2000e-004	5.3000e-004	1.2500e-003	0.0000	8.3157	8.3157	7.0000e-005	0.0000	8.3171
Worker	9.5200e-003	0.0162	0.1543	3.7000e-004	0.0321	2.1000e-004	0.0323	8.5200e-003	2.0000e-004	8.7200e-003	0.0000	26.4624	26.4624	1.3100e-003	0.0000	26.4900
Total	0.0144	0.0516	0.2127	4.6000e-004	0.0347	7.8000e-004	0.0354	9.2500e-003	7.3000e-004	9.9900e-003	0.0000	34.8666	34.8666	1.3800e-003	0.0000	34.8956

3.4 Phase 3-Substation Equipment Installation - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0838	0.7025	0.6192	8.8000e-004		0.0516	0.0516		0.0488	0.0488	0.0000	78.4636	78.4636	0.0180	0.0000	78.8413
Total	0.0838	0.7025	0.6192	8.8000e-004		0.0516	0.0516		0.0488	0.0488	0.0000	78.4636	78.4636	0.0180	0.0000	78.8413

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	5.0000e-005	5.6000e-004	5.9000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1769	0.1769	0.0000	0.0000	0.1769
Vendor	8.4700e-003	0.0642	0.1075	1.9000e-004	5.1500e-003	1.0700e-003	6.2100e-003	1.4700e-003	9.8000e-004	2.4600e-003	0.0000	16.6221	16.6221	1.4000e-004	0.0000	16.6249
Worker	0.0170	0.0296	0.2794	7.6000e-004	0.0653	4.2000e-004	0.0657	0.0173	3.9000e-004	0.0177	0.0000	52.0147	52.0147	2.4600e-003	0.0000	52.0665
Total	0.0255	0.0943	0.3875	9.5000e-004	0.0705	1.5000e-003	0.0720	0.0188	1.3800e-003	0.0202	0.0000	68.8137	68.8137	2.6000e-003	0.0000	68.8683

3.4 Phase 3-Substation Equipment Installation - 2018**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	0.0838	0.7025	0.6192	8.8000e-004		0.0516	0.0516		0.0488	0.0488	0.0000	78.4635	78.4635	0.0180	0.0000	78.8412
Total	0.0838	0.7025	0.6192	8.8000e-004		0.0516	0.0516		0.0488	0.0488	0.0000	78.4635	78.4635	0.0180	0.0000	78.8412

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	5.0000e-005	5.6000e-004	5.9000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1769	0.1769	0.0000	0.0000	0.1769
Vendor	8.4700e-003	0.0642	0.1075	1.9000e-004	5.1500e-003	1.0700e-003	6.2100e-003	1.4700e-003	9.8000e-004	2.4600e-003	0.0000	16.6221	16.6221	1.4000e-004	0.0000	16.6249
Worker	0.0170	0.0296	0.2794	7.6000e-004	0.0653	4.2000e-004	0.0657	0.0173	3.9000e-004	0.0177	0.0000	52.0147	52.0147	2.4600e-003	0.0000	52.0665
Total	0.0255	0.0943	0.3875	9.5000e-004	0.0705	1.5000e-003	0.0720	0.0188	1.3800e-003	0.0202	0.0000	68.8137	68.8137	2.6000e-003	0.0000	68.8683

3.5 Phase 4a-Power line re-route: Install TSP Foundations - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0200	0.2528	0.1242	3.5000e-004		9.8300e-003	9.8300e-003		9.0400e-003	9.0400e-003	0.0000	32.1570	32.1570	0.0100	0.0000	32.3672
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0200	0.2528	0.1242	3.5000e-004		9.8300e-003	9.8300e-003		9.0400e-003	9.0400e-003	0.0000	32.1570	32.1570	0.0100	0.0000	32.3672

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	4.0000e-005	4.2000e-004	4.4000e-004	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1319	0.1319	0.0000	0.0000	0.1319
Vendor	1.6700e-003	0.0126	0.0211	4.0000e-005	1.0100e-003	2.1000e-004	1.2200e-003	2.9000e-004	1.9000e-004	4.8000e-004	0.0000	3.2674	3.2674	3.0000e-005	0.0000	3.2680
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.7100e-003	0.0130	0.0216	4.0000e-005	1.0400e-003	2.2000e-004	1.2600e-003	3.0000e-004	2.0000e-004	5.0000e-004	0.0000	3.3993	3.3993	3.0000e-005	0.0000	3.3999

3.5 Phase 4a-Power line re-route: Install TSP Foundations - 2018**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	0.0200	0.2528	0.1242	3.5000e-004		9.8300e-003	9.8300e-003		9.0400e-003	9.0400e-003	0.0000	32.1570	32.1570	0.0100	0.0000	32.3672
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0200	0.2528	0.1242	3.5000e-004		9.8300e-003	9.8300e-003		9.0400e-003	9.0400e-003	0.0000	32.1570	32.1570	0.0100	0.0000	32.3672

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	4.0000e-005	4.2000e-004	4.4000e-004	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1319	0.1319	0.0000	0.0000	0.1319
Vendor	1.6700e-003	0.0126	0.0211	4.0000e-005	1.0100e-003	2.1000e-004	1.2200e-003	2.9000e-004	1.9000e-004	4.8000e-004	0.0000	3.2674	3.2674	3.0000e-005	0.0000	3.2680
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.7100e-003	0.0130	0.0216	4.0000e-005	1.0400e-003	2.2000e-004	1.2600e-003	3.0000e-004	2.0000e-004	5.0000e-004	0.0000	3.3993	3.3993	3.0000e-005	0.0000	3.3999

3.6 Phase 4b-Power line re-route: Install TSP - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1800e-003	0.0000	2.1800e-003	2.4000e-004	0.0000	2.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0647	0.7245	0.4848	7.5000e-004		0.0351	0.0351		0.0323	0.0323	0.0000	68.1197	68.1197	0.0211	0.0000	68.5620
Total	0.0647	0.7245	0.4848	7.5000e-004	2.1800e-003	0.0351	0.0372	2.4000e-004	0.0323	0.0325	0.0000	68.1197	68.1197	0.0211	0.0000	68.5620

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	2.1000e-004	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0660	0.0660	0.0000	0.0000	0.0660
Vendor	4.6900e-003	0.0355	0.0594	1.0000e-004	2.8500e-003	5.9000e-004	3.4400e-003	8.2000e-004	5.4000e-004	1.3600e-003	0.0000	9.1944	9.1944	8.0000e-005	0.0000	9.1960
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.7100e-003	0.0357	0.0597	1.0000e-004	2.8700e-003	5.9000e-004	3.4600e-003	8.2000e-004	5.4000e-004	1.3700e-003	0.0000	9.2603	9.2603	8.0000e-005	0.0000	9.2619

3.6 Phase 4b-Power line re-route: Install TSP - 2018

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					2.1800e-003	0.0000	2.1800e-003	2.4000e-004	0.0000	2.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0647	0.7245	0.4848	7.5000e-004		0.0351	0.0351		0.0323	0.0323	0.0000	68.1196	68.1196	0.0211	0.0000	68.5619
Total	0.0647	0.7245	0.4848	7.5000e-004	2.1800e-003	0.0351	0.0372	2.4000e-004	0.0323	0.0325	0.0000	68.1196	68.1196	0.0211	0.0000	68.5619

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	2.1000e-004	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0660	0.0660	0.0000	0.0000	0.0660
Vendor	4.6900e-003	0.0355	0.0594	1.0000e-004	2.8500e-003	5.9000e-004	3.4400e-003	8.2000e-004	5.4000e-004	1.3600e-003	0.0000	9.1944	9.1944	8.0000e-005	0.0000	9.1960
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.7100e-003	0.0357	0.0597	1.0000e-004	2.8700e-003	5.9000e-004	3.4600e-003	8.2000e-004	5.4000e-004	1.3700e-003	0.0000	9.2603	9.2603	8.0000e-005	0.0000	9.2619

3.7 Phase 4c-Power line re-route: String Power line - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.1553	0.0968	1.5000e-004		9.2700e-003	9.2700e-003		8.5300e-003	8.5300e-003	0.0000	13.9462	13.9462	4.3400e-003	0.0000	14.0374
Total	0.0150	0.1553	0.0968	1.5000e-004	0.0000	9.2700e-003	9.2700e-003	0.0000	8.5300e-003	8.5300e-003	0.0000	13.9462	13.9462	4.3400e-003	0.0000	14.0374

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	6.0000e-005	6.3000e-004	6.5000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1979	0.1979	0.0000	0.0000	0.1979
Vendor	8.5000e-004	6.4600e-003	0.0108	2.0000e-005	5.2000e-004	1.1000e-004	6.2000e-004	1.5000e-004	1.0000e-004	2.5000e-004	0.0000	1.6717	1.6717	1.0000e-005	0.0000	1.6720
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.1000e-004	7.0900e-003	0.0115	2.0000e-005	5.7000e-004	1.2000e-004	6.8000e-004	1.6000e-004	1.1000e-004	2.7000e-004	0.0000	1.8696	1.8696	1.0000e-005	0.0000	1.8699

3.7 Phase 4c-Power line re-route: String Power line - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.1553	0.0968	1.5000e-004		9.2700e-003	9.2700e-003		8.5300e-003	8.5300e-003	0.0000	13.9462	13.9462	4.3400e-003	0.0000	14.0374
Total	0.0150	0.1553	0.0968	1.5000e-004	0.0000	9.2700e-003	9.2700e-003	0.0000	8.5300e-003	8.5300e-003	0.0000	13.9462	13.9462	4.3400e-003	0.0000	14.0374

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	6.0000e-005	6.3000e-004	6.5000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1979	0.1979	0.0000	0.0000	0.1979
Vendor	8.5000e-004	6.4600e-003	0.0108	2.0000e-005	5.2000e-004	1.1000e-004	6.2000e-004	1.5000e-004	1.0000e-004	2.5000e-004	0.0000	1.6717	1.6717	1.0000e-005	0.0000	1.6720
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.1000e-004	7.0900e-003	0.0115	2.0000e-005	5.7000e-004	1.2000e-004	6.8000e-004	1.6000e-004	1.1000e-004	2.7000e-004	0.0000	1.8696	1.8696	1.0000e-005	0.0000	1.8699

3.8 Phase 4d-Power line re-route: Remove pull site and restore property - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1045	0.0964	1.3000e-004		7.1000e-003	7.1000e-003		6.5300e-003	6.5300e-003	0.0000	11.9246	11.9246	3.7100e-003	0.0000	12.0026
Total	0.0102	0.1045	0.0964	1.3000e-004	0.0000	7.1000e-003	7.1000e-003	0.0000	6.5300e-003	6.5300e-003	0.0000	11.9246	11.9246	3.7100e-003	0.0000	12.0026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	2.1000e-004	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0660	0.0660	0.0000	0.0000	0.0660
Vendor	1.3400e-003	0.0101	0.0170	3.0000e-005	8.1000e-004	1.7000e-004	9.8000e-004	2.3000e-004	1.5000e-004	3.9000e-004	0.0000	2.6215	2.6215	2.0000e-005	0.0000	2.6220
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3600e-003	0.0103	0.0172	3.0000e-005	8.3000e-004	1.7000e-004	1.0000e-003	2.3000e-004	1.5000e-004	4.0000e-004	0.0000	2.6875	2.6875	2.0000e-005	0.0000	2.6880

3.8 Phase 4d-Power line re-route: Remove pull site and restore property - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1045	0.0964	1.3000e-004		7.1000e-003	7.1000e-003		6.5300e-003	6.5300e-003	0.0000	11.9246	11.9246	3.7100e-003	0.0000	12.0026
Total	0.0102	0.1045	0.0964	1.3000e-004	0.0000	7.1000e-003	7.1000e-003	0.0000	6.5300e-003	6.5300e-003	0.0000	11.9246	11.9246	3.7100e-003	0.0000	12.0026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	2.1000e-004	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0660	0.0660	0.0000	0.0000	0.0660
Vendor	1.3400e-003	0.0101	0.0170	3.0000e-005	8.1000e-004	1.7000e-004	9.8000e-004	2.3000e-004	1.5000e-004	3.9000e-004	0.0000	2.6215	2.6215	2.0000e-005	0.0000	2.6220
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3600e-003	0.0103	0.0172	3.0000e-005	8.3000e-004	1.7000e-004	1.0000e-003	2.3000e-004	1.5000e-004	4.0000e-004	0.0000	2.6875	2.6875	2.0000e-005	0.0000	2.6880

3.9 Phase 5: Equipment Removal and Clean-up - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1544	1.6181	1.1827	1.7700e-003		0.0887	0.0887		0.0821	0.0821	0.0000	160.8783	160.8783	0.0474	0.0000	161.8745
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1544	1.6181	1.1827	1.7700e-003		0.0887	0.0887		0.0821	0.0821	0.0000	160.8783	160.8783	0.0474	0.0000	161.8745

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0900e-003	0.0234	0.0244	8.0000e-005	1.9200e-003	3.9000e-004	2.3100e-003	5.3000e-004	3.6000e-004	8.9000e-004	0.0000	7.3875	7.3875	5.0000e-005	0.0000	7.3887
Vendor	3.8400e-003	0.0291	0.0486	9.0000e-005	2.3300e-003	4.8000e-004	2.8100e-003	6.7000e-004	4.4000e-004	1.1100e-003	0.0000	7.5227	7.5227	6.0000e-005	0.0000	7.5240
Worker	6.3900e-003	0.0112	0.1054	2.8000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003	0.0000	19.6170	19.6170	9.3000e-004	0.0000	19.6365
Total	0.0123	0.0636	0.1785	4.5000e-004	0.0289	1.0300e-003	0.0299	7.7400e-003	9.5000e-004	8.6900e-003	0.0000	34.5272	34.5272	1.0400e-003	0.0000	34.5491

3.9 Phase 5: Equipment Removal and Clean-up - 2018**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	0.1544	1.6181	1.1827	1.7700e-003		0.0887	0.0887		0.0821	0.0821	0.0000	160.8781	160.8781	0.0474	0.0000	161.8743
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1544	1.6181	1.1827	1.7700e-003		0.0887	0.0887		0.0821	0.0821	0.0000	160.8781	160.8781	0.0474	0.0000	161.8743

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0900e-003	0.0234	0.0244	8.0000e-005	1.9200e-003	3.9000e-004	2.3100e-003	5.3000e-004	3.6000e-004	8.9000e-004	0.0000	7.3875	7.3875	5.0000e-005	0.0000	7.3887
Vendor	3.8400e-003	0.0291	0.0486	9.0000e-005	2.3300e-003	4.8000e-004	2.8100e-003	6.7000e-004	4.4000e-004	1.1100e-003	0.0000	7.5227	7.5227	6.0000e-005	0.0000	7.5240
Worker	6.3900e-003	0.0112	0.1054	2.8000e-004	0.0246	1.6000e-004	0.0248	6.5400e-003	1.5000e-004	6.6900e-003	0.0000	19.6170	19.6170	9.3000e-004	0.0000	19.6365
Total	0.0123	0.0636	0.1785	4.5000e-004	0.0289	1.0300e-003	0.0299	7.7400e-003	9.5000e-004	8.6900e-003	0.0000	34.5272	34.5272	1.0400e-003	0.0000	34.5491

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	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
General Light Industry	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
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.438302	0.063917	0.163234	0.169914	0.042886	0.007084	0.019490	0.082149	0.002063	0.001756	0.006579	0.000764	0.001861

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	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	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	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	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

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					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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	0.0000	0.0000	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

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	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	ROG	NOx	CO	SO2	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	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

7.1 Mitigation Measures Water

	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			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

Sanger Substation Expansion Project
Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	7.00	0.00	0
Other Non-Asphalt Surfaces	0.00		11.00		0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on PEA, Section 2.0 Project Description, substation expansion will occur on 7 acres and will result in temporary disturbance to 11 acres.

Construction Phase - Based on Construction Equipment and Schedule by Phase table developed by PGE.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table. Puller and tensioner under "Other General Industrial Equipment."

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Trips and VMT - Trip information taken from Table 3.16-3: Estimated Truck Trips.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	300.00	66.00
tblConstructionPhase	NumDays	300.00	261.00
tblConstructionPhase	NumDays	30.00	66.00
tblConstructionPhase	NumDays	30.00	44.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	23.00
tblConstructionPhase	PhaseEndDate	10/31/2018	4/30/2018
tblConstructionPhase	PhaseEndDate	12/3/2018	12/31/2018
tblConstructionPhase	PhaseStartDate	9/1/2018	3/1/2018
tblConstructionPhase	PhaseStartDate	9/1/2018	10/1/2018
tblConstructionPhase	PhaseStartDate	6/30/2018	7/1/2018

tblGrading	AcresOfGrading	99.00	7.00
tblGrading	AcresOfGrading	66.00	4.11
tblLandUse	LotAcreage	0.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	224.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	22.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	20.00	60.00
tblTripsAndVMT	WorkerTripNumber	0.00	60.00
tblTripsAndVMT	WorkerTripNumber	0.00	60.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	33.00	60.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.4090	45.1985	33.6380	0.0518	0.9799	2.3428	3.3227	0.2442	2.1561	2.4003	0.0000	5,043.2842	5,043.2842	1.2357	0.0000	5,069.2348
2018	5.0768	50.8719	41.3567	0.0684	1.0595	2.7184	3.6164	0.2693	2.5178	2.7579	0.0000	6,592.1210	6,592.1210	1.6195	0.0000	6,626.1314
Total	9.4857	96.0705	74.9948	0.1201	2.0394	5.0612	6.9391	0.5135	4.6739	5.1582	0.0000	11,635.4052	11,635.4052	2.8553	0.0000	11,695.3662

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.4090	45.1985	33.6380	0.0518	0.9799	2.3428	3.3227	0.2442	2.1561	2.4003	0.0000	5,043.2842	5,043.2842	1.2357	0.0000	5,069.2348
2018	5.0768	50.8719	41.3567	0.0684	1.0595	2.7184	3.6164	0.2693	2.5178	2.7579	0.0000	6,592.1210	6,592.1210	1.6195	0.0000	6,626.1314
Total	9.4857	96.0705	74.9948	0.1201	2.0394	5.0612	6.9391	0.5135	4.6739	5.1582	0.0000	11,635.4052	11,635.4052	2.8553	0.0000	11,695.3662

	ROG	NOx	CO	SO2	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

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	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	Phase 1-Substation Grading and Access	Grading	3/1/2017	5/31/2017	5	66	
2	Phase 2-Substation Foundations and Footings	Building Construction	6/1/2017	8/31/2017	5	66	
3	Phase 3-Substation Equipment Installation	Building Construction	9/1/2017	8/31/2018	5	261	
4	Phase 4a-Power line re-route: Install TSP Foundations	Paving	3/1/2018	4/30/2018	5	43	
5	Phase 4b-Power line re-route: Install TSP	Grading	5/1/2018	6/29/2018	5	44	
6	Phase 4c-Power line re-route: String Power line	Site Preparation	7/1/2018	7/31/2018	5	22	
7	Phase 4d-Power line re-route: Remove pull site and restore property	Site Preparation	8/1/2018	8/31/2018	5	23	
8	Phase 5: Equipment Removal and Clean-up	Paving	10/1/2018	12/31/2018	5	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1-Substation Grading and Access	Excavators	0	8.00	162	0.38
Phase 1-Substation Grading and Access	Graders	1	8.00	174	0.41
Phase 1-Substation Grading and Access	Other Construction Equipment	1	8.00	171	0.42
Phase 1-Substation Grading and Access	Plate Compactors	1	8.00	8	0.43
Phase 1-Substation Grading and Access	Rollers	1	8.00	80	0.38
Phase 1-Substation Grading and Access	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1-Substation Grading and Access	Scrapers	1	8.00	361	0.48
Phase 1-Substation Grading and Access	Skid Steer Loaders	1	8.00	64	0.37
Phase 1-Substation Grading and Access	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2-Substation Foundations and Footings	Air Compressors	1	8.00	78	0.48
Phase 2-Substation Foundations and Footings	Bore/Drill Rigs	1	8.00	205	0.50
Phase 2-Substation Foundations and Footings	Cranes	0	7.00	226	0.29
Phase 2-Substation Foundations and Footings	Excavators	1	8.00	162	0.38
Phase 2-Substation Foundations and Footings	Forklifts	1	8.00	89	0.20
Phase 2-Substation Foundations and Footings	Generator Sets	0	8.00	84	0.74
Phase 2-Substation Foundations and Footings	Skid Steer Loaders	2	8.00	64	0.37
Phase 2-Substation Foundations and Footings	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 2-Substation Foundations and Footings	Welders	0	8.00	46	0.45
Phase 3-Substation Equipment Installation	Air Compressors	1	8.00	78	0.48
Phase 3-Substation Equipment Installation	Cranes	0	7.00	226	0.29
Phase 3-Substation Equipment Installation	Forklifts	1	8.00	89	0.20
Phase 3-Substation Equipment Installation	Generator Sets	0	8.00	84	0.74
Phase 3-Substation Equipment Installation	Other General Industrial Equipment	1	8.00	87	0.34

Phase 3-Substation Equipment Installation	Skid Steer Loaders	1	8.00	64	0.37
Phase 3-Substation Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 3-Substation Equipment Installation	Welders	0	8.00	46	0.45
Phase 4a-Power line re-route: Install TSP Foundations	Bore/Drill Rigs	1	8.00	205	0.50
Phase 4a-Power line re-route: Install TSP Foundations	Cranes	1	8.00	226	0.29
Phase 4a-Power line re-route: Install TSP Foundations	Forklifts	0	8.00	89	0.20
Phase 4a-Power line re-route: Install TSP Foundations	Generator Sets	0	8.00	84	0.74
Phase 4a-Power line re-route: Install TSP Foundations	Skid Steer Loaders	1	8.00	64	0.37
Phase 4a-Power line re-route: Install TSP Foundations	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Phase 4a-Power line re-route: Install TSP Foundations	Welders	0	8.00	46	0.45
Phase 4b-Power line re-route: Install TSP	Aerial Lifts	1	8.00	62	0.31
Phase 4b-Power line re-route: Install TSP	Graders	1	8.00	174	0.41
Phase 4b-Power line re-route: Install TSP	Other Construction Equipment	1	8.00	171	0.42
Phase 4b-Power line re-route: Install TSP	Pavers	0	8.00	125	0.42
Phase 4b-Power line re-route: Install TSP	Paving Equipment	0	8.00	130	0.36
Phase 4b-Power line re-route: Install TSP	Plate Compactors	1	8.00	8	0.43
Phase 4b-Power line re-route: Install TSP	Rollers	1	8.00	80	0.38
Phase 4b-Power line re-route: Install TSP	Scrapers	1	8.00	361	0.48
Phase 4b-Power line re-route: Install TSP	Skid Steer Loaders	1	8.00	64	0.37
Phase 4c-Power line re-route: String Power line	Aerial Lifts	1	8.00	62	0.31
Phase 4c-Power line re-route: String Power line	Air Compressors	0	6.00	78	0.48
Phase 4c-Power line re-route: String Power line	Cranes	1	8.00	226	0.29
Phase 4c-Power line re-route: String Power line	Forklifts	1	8.00	89	0.20
Phase 4c-Power line re-route: String Power line	Other General Industrial Equipment	2	8.00	87	0.34

Phase 4d-Power line re-route: Remove pull site and restore property	Skid Steer Loaders	1	8.00	64	0.37
Phase 4d-Power line re-route: Remove pull site and restore property	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Phase 5: Equipment Removal and Clean-up	Air Compressors	1	8.00	78	0.48
Phase 5: Equipment Removal and Clean-up	Forklifts	1	8.00	89	0.20
Phase 5: Equipment Removal and Clean-up	Graders	1	8.00	174	0.41
Phase 5: Equipment Removal and Clean-up	Other Construction Equipment	1	8.00	171	0.42
Phase 5: Equipment Removal and Clean-up	Pavers	1	8.00	125	0.42
Phase 5: Equipment Removal and Clean-up	Plate Compactors	1	8.00	8	0.43
Phase 5: Equipment Removal and Clean-up	Rollers	1	8.00	80	0.38
Phase 5: Equipment Removal and Clean-up	Scrapers	1	8.00	361	0.48
Phase 5: Equipment Removal and Clean-up	Skid Steer Loaders	2	8.00	64	0.37
Phase 5: Equipment Removal and Clean-up	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1-Substation Grading and Access	8	60.00	16.00	18.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2-Substation Foundations and Footings	7	60.00	16.00	12.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3-Substation Equipment Installation	4	60.00	10.00	8.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4a-Power line re-route: Install TSP Foundation	3	0.00	8.00	4.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4b-Power line re-route: Install TSP Foundation	7	0.00	22.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4c-Power line re-route: String Power Line	5	0.00	8.00	6.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4d-Power line re-route: Remove pull site	4	0.00	12.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5: Equipment Removal and Clean-up	13	60.00	12.00	224.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Phase 1-Substation Grading and Access - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1125	0.0000	0.1125	0.0121	0.0000	0.0121			0.0000			0.0000
Off-Road	3.9768	43.5320	27.6392	0.0386		2.3157	2.3157		2.1312	2.1312		3,936.4398	3,936.4398	1.1991		3,961.6216
Total	3.9768	43.5320	27.6392	0.0386	0.1125	2.3157	2.4282	0.0121	2.1312	2.1433		3,936.4398	3,936.4398	1.1991		3,961.6216

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3400e-003	0.0608	0.0545	2.0000e-004	4.7800e-003	9.7000e-004	5.7500e-003	1.3100e-003	8.9000e-004	2.2000e-003		20.2077	20.2077	1.5000e-004		20.2107
Vendor	0.1660	1.2564	1.7685	3.4700e-003	0.0963	0.0212	0.1175	0.0275	0.0195	0.0470		342.2817	342.2817	2.8200e-003		342.3409
Worker	0.2608	0.3494	4.1759	9.4600e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		744.3551	744.3551	0.0337		745.0617
Total	0.4322	1.6666	5.9988	0.0131	0.8674	0.0271	0.8945	0.2320	0.0249	0.2569		1,106.8444	1,106.8444	0.0366		1,107.6133

3.2 Phase 1-Substation Grading and Access - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1125	0.0000	0.1125	0.0121	0.0000	0.0121			0.0000			0.0000
Off-Road	3.9768	43.5320	27.6392	0.0386		2.3157	2.3157		2.1312	2.1312	0.0000	3,936.4398	3,936.4398	1.1991		3,961.6216
Total	3.9768	43.5320	27.6392	0.0386	0.1125	2.3157	2.4282	0.0121	2.1312	2.1433	0.0000	3,936.4398	3,936.4398	1.1991		3,961.6216

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3400e-003	0.0608	0.0545	2.0000e-004	4.7800e-003	9.7000e-004	5.7500e-003	1.3100e-003	8.9000e-004	2.2000e-003		20.2077	20.2077	1.5000e-004		20.2107
Vendor	0.1660	1.2564	1.7685	3.4700e-003	0.0963	0.0212	0.1175	0.0275	0.0195	0.0470		342.2817	342.2817	2.8200e-003		342.3409
Worker	0.2608	0.3494	4.1759	9.4600e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		744.3551	744.3551	0.0337		745.0617
Total	0.4322	1.6666	5.9988	0.0131	0.8674	0.0271	0.8945	0.2320	0.0249	0.2569		1,106.8444	1,106.8444	0.0366		1,107.6133

3.3 Phase 2-Substation Foundations and Footings - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8599	19.1037	14.3191	0.0267		1.0869	1.0869		1.0184	1.0184		2,700.5888	2,700.5888	0.7521		2,716.3828
Total	1.8599	19.1037	14.3191	0.0267		1.0869	1.0869		1.0184	1.0184		2,700.5888	2,700.5888	0.7521		2,716.3828

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	3.5600e-003	0.0406	0.0363	1.4000e-004	3.1900e-003	6.5000e-004	3.8300e-003	8.7000e-004	6.0000e-004	1.4700e-003		13.4718	13.4718	1.0000e-004		13.4738
Vendor	0.1660	1.2564	1.7685	3.4700e-003	0.0963	0.0212	0.1175	0.0275	0.0195	0.0470		342.2817	342.2817	2.8200e-003		342.3409
Worker	0.2608	0.3494	4.1759	9.4600e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		744.3551	744.3551	0.0337		745.0617
Total	0.4304	1.6463	5.9807	0.0131	0.8658	0.0268	0.8926	0.2316	0.0246	0.2562		1,100.1085	1,100.1085	0.0366		1,100.8764

3.3 Phase 2-Substation Foundations and Footings - 2017

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	1.8599	19.1037	14.3191	0.0267		1.0869	1.0869		1.0184	1.0184	0.0000	2,700.5888	2,700.5888	0.7521		2,716.3828
Total	1.8599	19.1037	14.3191	0.0267		1.0869	1.0869		1.0184	1.0184	0.0000	2,700.5888	2,700.5888	0.7521		2,716.3828

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	3.5600e-003	0.0406	0.0363	1.4000e-004	3.1900e-003	6.5000e-004	3.8300e-003	8.7000e-004	6.0000e-004	1.4700e-003		13.4718	13.4718	1.0000e-004		13.4738
Vendor	0.1660	1.2564	1.7685	3.4700e-003	0.0963	0.0212	0.1175	0.0275	0.0195	0.0470		342.2817	342.2817	2.8200e-003		342.3409
Worker	0.2608	0.3494	4.1759	9.4600e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		744.3551	744.3551	0.0337		745.0617
Total	0.4304	1.6463	5.9807	0.0131	0.8658	0.0268	0.8926	0.2316	0.0246	0.2562		1,100.1085	1,100.1085	0.0366		1,100.8764

3.4 Phase 3-Substation Equipment Installation - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1050	9.0971	7.2117	0.0101		0.7010	0.7010		0.6634	0.6634		998.4634	998.4634	0.2306		1,003.3053
Total	1.1050	9.0971	7.2117	0.0101		0.7010	0.7010		0.6634	0.6634		998.4634	998.4634	0.2306		1,003.3053

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	6.0000e-004	6.8400e-003	6.1200e-003	2.0000e-005	1.3600e-003	1.1000e-004	1.4700e-003	3.5000e-004	1.0000e-004	4.5000e-004		2.2711	2.2711	2.0000e-005		2.2715
Vendor	0.1038	0.7852	1.1053	2.1700e-003	0.0602	0.0132	0.0734	0.0172	0.0122	0.0294		213.9261	213.9261	1.7600e-003		213.9630
Worker	0.2608	0.3494	4.1759	9.4600e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		744.3551	744.3551	0.0337		745.0617
Total	0.3652	1.1414	5.2873	0.0117	0.8279	0.0183	0.8462	0.2208	0.0168	0.2376		960.5522	960.5522	0.0354		961.2962

3.4 Phase 3-Substation Equipment Installation - 2017**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	1.1050	9.0971	7.2117	0.0101		0.7010	0.7010		0.6634	0.6634	0.0000	998.4634	998.4634	0.2306		1,003.3053
Total	1.1050	9.0971	7.2117	0.0101		0.7010	0.7010		0.6634	0.6634	0.0000	998.4634	998.4634	0.2306		1,003.3053

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	6.0000e-004	6.8400e-003	6.1200e-003	2.0000e-005	1.3600e-003	1.1000e-004	1.4700e-003	3.5000e-004	1.0000e-004	4.5000e-004		2.2711	2.2711	2.0000e-005		2.2715
Vendor	0.1038	0.7852	1.1053	2.1700e-003	0.0602	0.0132	0.0734	0.0172	0.0122	0.0294		213.9261	213.9261	1.7600e-003		213.9630
Worker	0.2608	0.3494	4.1759	9.4600e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		744.3551	744.3551	0.0337		745.0617
Total	0.3652	1.1414	5.2873	0.0117	0.8279	0.0183	0.8462	0.2208	0.0168	0.2376		960.5522	960.5522	0.0354		961.2962

3.4 Phase 3-Substation Equipment Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9572	8.0281	7.0765	0.0101		0.5891	0.5891		0.5581	0.5581		988.4721	988.4721	0.2266		993.2298
Total	0.9572	8.0281	7.0765	0.0101		0.5891	0.5891		0.5581	0.5581		988.4721	988.4721	0.2266		993.2298

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.4000e-004	6.1100e-003	5.5300e-003	2.0000e-005	7.4000e-004	1.1000e-004	8.4000e-004	2.0000e-004	1.0000e-004	2.9000e-004		2.2308	2.2308	2.0000e-005		2.2312
Vendor	0.0893	0.7063	0.9764	2.1600e-003	0.0602	0.0121	0.0723	0.0172	0.0111	0.0283		210.1444	210.1444	1.7100e-003		210.1804
Worker	0.2301	0.3139	3.7334	9.4800e-003	0.7664	4.8200e-003	0.7712	0.2032	4.4600e-003	0.2077		719.0587	719.0587	0.0311		719.7108
Total	0.3199	1.0263	4.7154	0.0117	0.8273	0.0171	0.8443	0.2206	0.0157	0.2363		931.4340	931.4340	0.0328		932.1224

3.4 Phase 3-Substation Equipment Installation - 2018**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	0.9572	8.0281	7.0765	0.0101		0.5891	0.5891		0.5581	0.5581	0.0000	988.4721	988.4721	0.2266		993.2298
Total	0.9572	8.0281	7.0765	0.0101		0.5891	0.5891		0.5581	0.5581	0.0000	988.4721	988.4721	0.2266		993.2298

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.4000e-004	6.1100e-003	5.5300e-003	2.0000e-005	7.4000e-004	1.1000e-004	8.4000e-004	2.0000e-004	1.0000e-004	2.9000e-004		2.2308	2.2308	2.0000e-005		2.2312
Vendor	0.0893	0.7063	0.9764	2.1600e-003	0.0602	0.0121	0.0723	0.0172	0.0111	0.0283		210.1444	210.1444	1.7100e-003		210.1804
Worker	0.2301	0.3139	3.7334	9.4800e-003	0.7664	4.8200e-003	0.7712	0.2032	4.4600e-003	0.2077		719.0587	719.0587	0.0311		719.7108
Total	0.3199	1.0263	4.7154	0.0117	0.8273	0.0171	0.8443	0.2206	0.0157	0.2363		931.4340	931.4340	0.0328		932.1224

3.5 Phase 4a-Power line re-route: Install TSP Foundations - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9279	11.7599	5.7783	0.0164		0.4572	0.4572		0.4206	0.4206		1,648.6993	1,648.6993	0.5133		1,659.4778
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9279	11.7599	5.7783	0.0164		0.4572	0.4572		0.4206	0.4206		1,648.6993	1,648.6993	0.5133		1,659.4778

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	1.6400e-003	0.0185	0.0168	7.0000e-005	1.6300e-003	3.2000e-004	1.9500e-003	4.5000e-004	3.0000e-004	7.5000e-004		6.7703	6.7703	5.0000e-005		6.7713
Vendor	0.0715	0.5650	0.7812	1.7300e-003	0.0481	9.7000e-003	0.0578	0.0137	8.9200e-003	0.0227		168.1155	168.1155	1.3700e-003		168.1443
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0731	0.5836	0.7979	1.8000e-003	0.0498	0.0100	0.0598	0.0142	9.2200e-003	0.0234		174.8858	174.8858	1.4200e-003		174.9156

3.5 Phase 4a-Power line re-route: Install TSP Foundations - 2018**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	0.9279	11.7599	5.7783	0.0164		0.4572	0.4572		0.4206	0.4206	0.0000	1,648.6993	1,648.6993	0.5133		1,659.4778
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9279	11.7599	5.7783	0.0164		0.4572	0.4572		0.4206	0.4206	0.0000	1,648.6993	1,648.6993	0.5133		1,659.4778

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	1.6400e-003	0.0185	0.0168	7.0000e-005	1.6300e-003	3.2000e-004	1.9500e-003	4.5000e-004	3.0000e-004	7.5000e-004		6.7703	6.7703	5.0000e-005		6.7713
Vendor	0.0715	0.5650	0.7812	1.7300e-003	0.0481	9.7000e-003	0.0578	0.0137	8.9200e-003	0.0227		168.1155	168.1155	1.3700e-003		168.1443
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0731	0.5836	0.7979	1.8000e-003	0.0498	0.0100	0.0598	0.0142	9.2200e-003	0.0234		174.8858	174.8858	1.4200e-003		174.9156

3.6 Phase 4b-Power line re-route: Install TSP - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0991	0.0000	0.0991	0.0107	0.0000	0.0107			0.0000			0.0000
Off-Road	2.9426	32.9315	22.0345	0.0341		1.5933	1.5933		1.4666	1.4666		3,413.1390	3,413.1390	1.0554		3,435.3025
Total	2.9426	32.9315	22.0345	0.0341	0.0991	1.5933	1.6924	0.0107	1.4666	1.4773		3,413.1390	3,413.1390	1.0554		3,435.3025

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	8.0000e-004	9.0600e-003	8.2000e-003	3.0000e-005	8.0000e-004	1.6000e-004	9.6000e-004	2.2000e-004	1.5000e-004	3.6000e-004		3.3082	3.3082	2.0000e-005		3.3087
Vendor	0.1965	1.5538	2.1482	4.7600e-003	0.1324	0.0267	0.1590	0.0378	0.0245	0.0623		462.3177	462.3177	3.7700e-003		462.3969
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1973	1.5629	2.1564	4.7900e-003	0.1332	0.0268	0.1600	0.0380	0.0247	0.0627		465.6259	465.6259	3.7900e-003		465.7056

3.6 Phase 4b-Power line re-route: Install TSP - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0991	0.0000	0.0991	0.0107	0.0000	0.0107			0.0000			0.0000
Off-Road	2.9426	32.9315	22.0345	0.0341		1.5933	1.5933		1.4666	1.4666	0.0000	3,413.1390	3,413.1390	1.0554		3,435.3025
Total	2.9426	32.9315	22.0345	0.0341	0.0991	1.5933	1.6924	0.0107	1.4666	1.4773	0.0000	3,413.1390	3,413.1390	1.0554		3,435.3025

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	8.0000e-004	9.0600e-003	8.2000e-003	3.0000e-005	8.0000e-004	1.6000e-004	9.6000e-004	2.2000e-004	1.5000e-004	3.6000e-004		3.3082	3.3082	2.0000e-005		3.3087
Vendor	0.1965	1.5538	2.1482	4.7600e-003	0.1324	0.0267	0.1590	0.0378	0.0245	0.0623		462.3177	462.3177	3.7700e-003		462.3969
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1973	1.5629	2.1564	4.7900e-003	0.1332	0.0268	0.1600	0.0380	0.0247	0.0627		465.6259	465.6259	3.7900e-003		465.7056

3.7 Phase 4c-Power line re-route: String Power line - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3594	14.1168	8.7966	0.0139		0.8425	0.8425		0.7751	0.7751		1,397.5514	1,397.5514	0.4351		1,406.6880
Total	1.3594	14.1168	8.7966	0.0139	0.0000	0.8425	0.8425	0.0000	0.7751	0.7751		1,397.5514	1,397.5514	0.4351		1,406.6880

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	4.8100e-003	0.0544	0.0492	2.0000e-004	4.7800e-003	9.5000e-004	5.7300e-003	1.3100e-003	8.8000e-004	2.1900e-003		19.8492	19.8492	1.4000e-004		19.8522
Vendor	0.0715	0.5650	0.7812	1.7300e-003	0.0481	9.7000e-003	0.0578	0.0137	8.9200e-003	0.0227		168.1155	168.1155	1.3700e-003		168.1443
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0763	0.6194	0.8303	1.9300e-003	0.0529	0.0107	0.0636	0.0151	9.8000e-003	0.0249		187.9647	187.9647	1.5100e-003		187.9965

3.7 Phase 4c-Power line re-route: String Power line - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3594	14.1168	8.7966	0.0139		0.8425	0.8425		0.7751	0.7751	0.0000	1,397.5514	1,397.5514	0.4351		1,406.6880
Total	1.3594	14.1168	8.7966	0.0139	0.0000	0.8425	0.8425	0.0000	0.7751	0.7751	0.0000	1,397.5514	1,397.5514	0.4351		1,406.6880

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	4.8100e-003	0.0544	0.0492	2.0000e-004	4.7800e-003	9.5000e-004	5.7300e-003	1.3100e-003	8.8000e-004	2.1900e-003		19.8492	19.8492	1.4000e-004		19.8522
Vendor	0.0715	0.5650	0.7812	1.7300e-003	0.0481	9.7000e-003	0.0578	0.0137	8.9200e-003	0.0227		168.1155	168.1155	1.3700e-003		168.1443
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0763	0.6194	0.8303	1.9300e-003	0.0529	0.0107	0.0636	0.0151	9.8000e-003	0.0249		187.9647	187.9647	1.5100e-003		187.9965

3.8 Phase 4d-Power line re-route: Remove pull site and restore property - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8885	9.0836	8.3809	0.0114		0.6173	0.6173		0.5679	0.5679		1,143.0123	1,143.0123	0.3558		1,150.4849
Total	0.8885	9.0836	8.3809	0.0114	0.0000	0.6173	0.6173	0.0000	0.5679	0.5679		1,143.0123	1,143.0123	0.3558		1,150.4849

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	1.5300e-003	0.0173	0.0157	6.0000e-005	1.5200e-003	3.0000e-004	1.8300e-003	4.2000e-004	2.8000e-004	7.0000e-004		6.3287	6.3287	5.0000e-005		6.3297
Vendor	0.1072	0.8475	1.1717	2.5900e-003	0.0722	0.0146	0.0868	0.0206	0.0134	0.0340		252.1733	252.1733	2.0600e-003		252.2165
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1087	0.8649	1.1874	2.6500e-003	0.0737	0.0149	0.0886	0.0210	0.0137	0.0347		258.5020	258.5020	2.1100e-003		258.5462

3.8 Phase 4d-Power line re-route: Remove pull site and restore property - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8885	9.0836	8.3809	0.0114		0.6173	0.6173		0.5679	0.5679	0.0000	1,143.0123	1,143.0123	0.3558		1,150.4849
Total	0.8885	9.0836	8.3809	0.0114	0.0000	0.6173	0.6173	0.0000	0.5679	0.5679	0.0000	1,143.0123	1,143.0123	0.3558		1,150.4849

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	1.5300e-003	0.0173	0.0157	6.0000e-005	1.5200e-003	3.0000e-004	1.8300e-003	4.2000e-004	2.8000e-004	7.0000e-004		6.3287	6.3287	5.0000e-005		6.3297
Vendor	0.1072	0.8475	1.1717	2.5900e-003	0.0722	0.0146	0.0868	0.0206	0.0134	0.0340		252.1733	252.1733	2.0600e-003		252.2165
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1087	0.8649	1.1874	2.6500e-003	0.0737	0.0149	0.0886	0.0210	0.0137	0.0347		258.5020	258.5020	2.1100e-003		258.5462

3.9 Phase 5: Equipment Removal and Clean-up - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.6797	49.0341	35.8395	0.0538		2.6872	2.6872		2.4890	2.4890		5,373.8768	5,373.8768	1.5846		5,407.1542
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	4.6797	49.0341	35.8395	0.0538		2.6872	2.6872		2.4890	2.4890		5,373.8768	5,373.8768	1.5846		5,407.1542

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	0.0598	0.6764	0.6121	2.5300e-003	0.0595	0.0119	0.0713	0.0163	0.0109	0.0272		247.0121	247.0121	1.8000e-003		247.0498
Vendor	0.1072	0.8475	1.1717	2.5900e-003	0.0722	0.0146	0.0868	0.0206	0.0134	0.0340		252.1733	252.1733	2.0600e-003		252.2165
Worker	0.2301	0.3139	3.7334	9.4800e-003	0.7664	4.8200e-003	0.7712	0.2032	4.4600e-003	0.2077		719.0587	719.0587	0.0311		719.7108
Total	0.3971	1.8378	5.5173	0.0146	0.8980	0.0312	0.9293	0.2402	0.0287	0.2689		1,218.2442	1,218.2442	0.0349		1,218.9771

3.9 Phase 5: Equipment Removal and Clean-up - 2018**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	4.6797	49.0341	35.8395	0.0538		2.6872	2.6872		2.4890	2.4890	0.0000	5,373.8768	5,373.8768	1.5846		5,407.1542
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	4.6797	49.0341	35.8395	0.0538		2.6872	2.6872		2.4890	2.4890	0.0000	5,373.8768	5,373.8768	1.5846		5,407.1542

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	0.0598	0.6764	0.6121	2.5300e-003	0.0595	0.0119	0.0713	0.0163	0.0109	0.0272		247.0121	247.0121	1.8000e-003		247.0498
Vendor	0.1072	0.8475	1.1717	2.5900e-003	0.0722	0.0146	0.0868	0.0206	0.0134	0.0340		252.1733	252.1733	2.0600e-003		252.2165
Worker	0.2301	0.3139	3.7334	9.4800e-003	0.7664	4.8200e-003	0.7712	0.2032	4.4600e-003	0.2077		719.0587	719.0587	0.0311		719.7108
Total	0.3971	1.8378	5.5173	0.0146	0.8980	0.0312	0.9293	0.2402	0.0287	0.2689		1,218.2442	1,218.2442	0.0349		1,218.9771

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	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
General Light Industry	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
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.438302	0.063917	0.163234	0.169914	0.042886	0.007084	0.019490	0.082149	0.002063	0.001756	0.006579	0.000764	0.001861

5.0 Energy Detail

4.4 Fleet Mix

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					
General Light Industry	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	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

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					
General Light Industry	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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	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

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

7.0 Water Detail

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

Sanger Substation Expansion Project

Fresno County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	7.00	0.00	0
Other Non-Asphalt Surfaces	0.00		11.00		0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on PEA, Section 2.0 Project Description, substation expansion will occur on 7 acres and will result in temporary disturbance to 11 acres.

Construction Phase - Based on Construction Equipment and Schedule by Phase table developed by PGE.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table. Puller and tensioner under "Other General Industrial Equipment."

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Off-road Equipment - Construction equipment based on "Construction Equipment and Schedule by Phase" table.

Trips and VMT - Trip information taken from Table 3.16-3: Estimated Truck Trips.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	300.00	66.00
tblConstructionPhase	NumDays	300.00	261.00
tblConstructionPhase	NumDays	30.00	66.00
tblConstructionPhase	NumDays	30.00	44.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	23.00
tblConstructionPhase	PhaseEndDate	10/31/2018	4/30/2018
tblConstructionPhase	PhaseEndDate	12/3/2018	12/31/2018
tblConstructionPhase	PhaseStartDate	9/1/2018	3/1/2018
tblConstructionPhase	PhaseStartDate	9/1/2018	10/1/2018
tblConstructionPhase	PhaseStartDate	6/30/2018	7/1/2018

tblGrading	AcresOfGrading	99.00	7.00
tblGrading	AcresOfGrading	66.00	4.11
tblLandUse	LotAcreage	0.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	224.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	22.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	20.00	60.00
tblTripsAndVMT	WorkerTripNumber	0.00	60.00
tblTripsAndVMT	WorkerTripNumber	0.00	60.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	33.00	60.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.4124	45.3327	33.9483	0.0506	0.9799	2.3431	3.3230	0.2442	2.1564	2.4006	0.0000	4,947.8769	4,947.8769	1.2358	0.0000	4,973.8293
2018	5.0740	51.0166	41.7475	0.0672	1.0595	2.7186	3.6167	0.2693	2.5180	2.7582	0.0000	6,500.0138	6,500.0138	1.6196	0.0000	6,534.0260
Total	9.4865	96.3493	75.6958	0.1177	2.0394	5.0617	6.9397	0.5135	4.6744	5.1587	0.0000	11,447.8907	11,447.8907	2.8555	0.0000	11,507.8554

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.4124	45.3327	33.9483	0.0506	0.9799	2.3431	3.3230	0.2442	2.1564	2.4006	0.0000	4,947.8769	4,947.8769	1.2358	0.0000	4,973.8293
2018	5.0740	51.0166	41.7475	0.0672	1.0595	2.7186	3.6167	0.2693	2.5180	2.7582	0.0000	6,500.0138	6,500.0138	1.6196	0.0000	6,534.0260
Total	9.4865	96.3493	75.6958	0.1177	2.0394	5.0617	6.9397	0.5135	4.6744	5.1587	0.0000	11,447.8907	11,447.8907	2.8555	0.0000	11,507.8554

	ROG	NOx	CO	SO2	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

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	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	Phase 1-Substation Grading and Access	Grading	3/1/2017	5/31/2017	5	66	
2	Phase 2-Substation Foundations and Footings	Building Construction	6/1/2017	8/31/2017	5	66	
3	Phase 3-Substation Equipment Installation	Building Construction	9/1/2017	8/31/2018	5	261	
4	Phase 4a-Power line re-route: Install TSP Foundations	Paving	3/1/2018	4/30/2018	5	43	
5	Phase 4b-Power line re-route: Install TSP	Grading	5/1/2018	6/29/2018	5	44	
6	Phase 4c-Power line re-route: String Power line	Site Preparation	7/1/2018	7/31/2018	5	22	
7	Phase 4d-Power line re-route: Remove pull site and restore property	Site Preparation	8/1/2018	8/31/2018	5	23	
8	Phase 5: Equipment Removal and Clean-up	Paving	10/1/2018	12/31/2018	5	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1-Substation Grading and Access	Excavators	0	8.00	162	0.38
Phase 1-Substation Grading and Access	Graders	1	8.00	174	0.41
Phase 1-Substation Grading and Access	Other Construction Equipment	1	8.00	171	0.42
Phase 1-Substation Grading and Access	Plate Compactors	1	8.00	8	0.43
Phase 1-Substation Grading and Access	Rollers	1	8.00	80	0.38
Phase 1-Substation Grading and Access	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1-Substation Grading and Access	Scrapers	1	8.00	361	0.48
Phase 1-Substation Grading and Access	Skid Steer Loaders	1	8.00	64	0.37
Phase 1-Substation Grading and Access	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2-Substation Foundations and Footings	Air Compressors	1	8.00	78	0.48
Phase 2-Substation Foundations and Footings	Bore/Drill Rigs	1	8.00	205	0.50
Phase 2-Substation Foundations and Footings	Cranes	0	7.00	226	0.29
Phase 2-Substation Foundations and Footings	Excavators	1	8.00	162	0.38
Phase 2-Substation Foundations and Footings	Forklifts	1	8.00	89	0.20
Phase 2-Substation Foundations and Footings	Generator Sets	0	8.00	84	0.74
Phase 2-Substation Foundations and Footings	Skid Steer Loaders	2	8.00	64	0.37
Phase 2-Substation Foundations and Footings	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 2-Substation Foundations and Footings	Welders	0	8.00	46	0.45
Phase 3-Substation Equipment Installation	Air Compressors	1	8.00	78	0.48
Phase 3-Substation Equipment Installation	Cranes	0	7.00	226	0.29
Phase 3-Substation Equipment Installation	Forklifts	1	8.00	89	0.20
Phase 3-Substation Equipment Installation	Generator Sets	0	8.00	84	0.74
Phase 3-Substation Equipment Installation	Other General Industrial Equipment	1	8.00	87	0.34

Phase 3-Substation Equipment Installation	Skid Steer Loaders	1	8.00	64	0.37
Phase 3-Substation Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 3-Substation Equipment Installation	Welders	0	8.00	46	0.45
Phase 4a-Power line re-route: Install TSP Foundations	Bore/Drill Rigs	1	8.00	205	0.50
Phase 4a-Power line re-route: Install TSP Foundations	Cranes	1	8.00	226	0.29
Phase 4a-Power line re-route: Install TSP Foundations	Forklifts	0	8.00	89	0.20
Phase 4a-Power line re-route: Install TSP Foundations	Generator Sets	0	8.00	84	0.74
Phase 4a-Power line re-route: Install TSP Foundations	Skid Steer Loaders	1	8.00	64	0.37
Phase 4a-Power line re-route: Install TSP Foundations	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Phase 4a-Power line re-route: Install TSP Foundations	Welders	0	8.00	46	0.45
Phase 4b-Power line re-route: Install TSP	Aerial Lifts	1	8.00	62	0.31
Phase 4b-Power line re-route: Install TSP	Graders	1	8.00	174	0.41
Phase 4b-Power line re-route: Install TSP	Other Construction Equipment	1	8.00	171	0.42
Phase 4b-Power line re-route: Install TSP	Pavers	0	8.00	125	0.42
Phase 4b-Power line re-route: Install TSP	Paving Equipment	0	8.00	130	0.36
Phase 4b-Power line re-route: Install TSP	Plate Compactors	1	8.00	8	0.43
Phase 4b-Power line re-route: Install TSP	Rollers	1	8.00	80	0.38
Phase 4b-Power line re-route: Install TSP	Scrapers	1	8.00	361	0.48
Phase 4b-Power line re-route: Install TSP	Skid Steer Loaders	1	8.00	64	0.37
Phase 4c-Power line re-route: String Power line	Aerial Lifts	1	8.00	62	0.31
Phase 4c-Power line re-route: String Power line	Air Compressors	0	6.00	78	0.48
Phase 4c-Power line re-route: String Power line	Cranes	1	8.00	226	0.29
Phase 4c-Power line re-route: String Power line	Forklifts	1	8.00	89	0.20
Phase 4c-Power line re-route: String Power line	Other General Industrial Equipment	2	8.00	87	0.34

Phase 4d-Power line re-route: Remove pull site and restore property	Skid Steer Loaders	1	8.00	64	0.37
Phase 4d-Power line re-route: Remove pull site and restore property	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Phase 5: Equipment Removal and Clean-up	Air Compressors	1	8.00	78	0.48
Phase 5: Equipment Removal and Clean-up	Forklifts	1	8.00	89	0.20
Phase 5: Equipment Removal and Clean-up	Graders	1	8.00	174	0.41
Phase 5: Equipment Removal and Clean-up	Other Construction Equipment	1	8.00	171	0.42
Phase 5: Equipment Removal and Clean-up	Pavers	1	8.00	125	0.42
Phase 5: Equipment Removal and Clean-up	Plate Compactors	1	8.00	8	0.43
Phase 5: Equipment Removal and Clean-up	Rollers	1	8.00	80	0.38
Phase 5: Equipment Removal and Clean-up	Scrapers	1	8.00	361	0.48
Phase 5: Equipment Removal and Clean-up	Skid Steer Loaders	2	8.00	64	0.37
Phase 5: Equipment Removal and Clean-up	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1-Substation Grading and Access	8	60.00	16.00	18.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2-Substation Foundations and Footings	7	60.00	16.00	12.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3-Substation Equipment Installation	4	60.00	10.00	8.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4a-Power line re-route: Install TSP Enclosure	3	0.00	8.00	4.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4b-Power line re-route: Install TSP Enclosure	7	0.00	22.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4c-Power line re-route: String Power Line	5	0.00	8.00	6.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4d-Power line re-route: Remove pull site and restore property	4	0.00	12.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5: Equipment Removal and Clean-up	13	60.00	12.00	224.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Phase 1-Substation Grading and Access - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1125	0.0000	0.1125	0.0121	0.0000	0.0121			0.0000			0.0000
Off-Road	3.9768	43.5320	27.6392	0.0386		2.3157	2.3157		2.1312	2.1312		3,936.4398	3,936.4398	1.1991		3,961.6216
Total	3.9768	43.5320	27.6392	0.0386	0.1125	2.3157	2.4282	0.0121	2.1312	2.1433		3,936.4398	3,936.4398	1.1991		3,961.6216

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	6.2800e-003	0.0648	0.0779	2.0000e-004	4.7800e-003	9.7000e-004	5.7500e-003	1.3100e-003	9.0000e-004	2.2100e-003		20.1602	20.1602	1.5000e-004		20.1633
Vendor	0.2064	1.3232	2.7007	3.4600e-003	0.0963	0.0215	0.1178	0.0275	0.0198	0.0472		339.4124	339.4124	2.9000e-003		339.4734
Worker	0.2230	0.4127	3.5305	8.2700e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		651.8645	651.8645	0.0337		652.5711
Total	0.4357	1.8007	6.3091	0.0119	0.8674	0.0274	0.8949	0.2320	0.0252	0.2572		1,011.4372	1,011.4372	0.0367		1,012.2078

3.2 Phase 1-Substation Grading and Access - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1125	0.0000	0.1125	0.0121	0.0000	0.0121			0.0000			0.0000
Off-Road	3.9768	43.5320	27.6392	0.0386		2.3157	2.3157		2.1312	2.1312	0.0000	3,936.4398	3,936.4398	1.1991		3,961.6216
Total	3.9768	43.5320	27.6392	0.0386	0.1125	2.3157	2.4282	0.0121	2.1312	2.1433	0.0000	3,936.4398	3,936.4398	1.1991		3,961.6216

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	6.2800e-003	0.0648	0.0779	2.0000e-004	4.7800e-003	9.7000e-004	5.7500e-003	1.3100e-003	9.0000e-004	2.2100e-003		20.1602	20.1602	1.5000e-004		20.1633
Vendor	0.2064	1.3232	2.7007	3.4600e-003	0.0963	0.0215	0.1178	0.0275	0.0198	0.0472		339.4124	339.4124	2.9000e-003		339.4734
Worker	0.2230	0.4127	3.5305	8.2700e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		651.8645	651.8645	0.0337		652.5711
Total	0.4357	1.8007	6.3091	0.0119	0.8674	0.0274	0.8949	0.2320	0.0252	0.2572		1,011.4372	1,011.4372	0.0367		1,012.2078

3.3 Phase 2-Substation Foundations and Footings - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8599	19.1037	14.3191	0.0267		1.0869	1.0869		1.0184	1.0184		2,700.5888	2,700.5888	0.7521		2,716.3828
Total	1.8599	19.1037	14.3191	0.0267		1.0869	1.0869		1.0184	1.0184		2,700.5888	2,700.5888	0.7521		2,716.3828

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	4.1900e-003	0.0432	0.0519	1.4000e-004	3.1900e-003	6.5000e-004	3.8300e-003	8.7000e-004	6.0000e-004	1.4700e-003		13.4402	13.4402	1.0000e-004		13.4422
Vendor	0.2064	1.3232	2.7007	3.4600e-003	0.0963	0.0215	0.1178	0.0275	0.0198	0.0472		339.4124	339.4124	2.9000e-003		339.4734
Worker	0.2230	0.4127	3.5305	8.2700e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		651.8645	651.8645	0.0337		652.5711
Total	0.4336	1.7791	6.2832	0.0119	0.8658	0.0271	0.8929	0.2316	0.0249	0.2565		1,004.7171	1,004.7171	0.0367		1,005.4867

3.3 Phase 2-Substation Foundations and Footings - 2017

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	1.8599	19.1037	14.3191	0.0267		1.0869	1.0869		1.0184	1.0184	0.0000	2,700.5888	2,700.5888	0.7521		2,716.3828
Total	1.8599	19.1037	14.3191	0.0267		1.0869	1.0869		1.0184	1.0184	0.0000	2,700.5888	2,700.5888	0.7521		2,716.3828

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	4.1900e-003	0.0432	0.0519	1.4000e-004	3.1900e-003	6.5000e-004	3.8300e-003	8.7000e-004	6.0000e-004	1.4700e-003		13.4402	13.4402	1.0000e-004		13.4422
Vendor	0.2064	1.3232	2.7007	3.4600e-003	0.0963	0.0215	0.1178	0.0275	0.0198	0.0472		339.4124	339.4124	2.9000e-003		339.4734
Worker	0.2230	0.4127	3.5305	8.2700e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		651.8645	651.8645	0.0337		652.5711
Total	0.4336	1.7791	6.2832	0.0119	0.8658	0.0271	0.8929	0.2316	0.0249	0.2565		1,004.7171	1,004.7171	0.0367		1,005.4867

3.4 Phase 3-Substation Equipment Installation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1050	9.0971	7.2117	0.0101		0.7010	0.7010		0.6634	0.6634		998.4634	998.4634	0.2306		1,003.3053
Total	1.1050	9.0971	7.2117	0.0101		0.7010	0.7010		0.6634	0.6634		998.4634	998.4634	0.2306		1,003.3053

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	7.1000e-004	7.2800e-003	8.7600e-003	2.0000e-005	1.3600e-003	1.1000e-004	1.4700e-003	3.5000e-004	1.0000e-004	4.5000e-004		2.2658	2.2658	2.0000e-005		2.2661
Vendor	0.1290	0.8270	1.6879	2.1600e-003	0.0602	0.0134	0.0736	0.0172	0.0124	0.0295		212.1328	212.1328	1.8100e-003		212.1708
Worker	0.2230	0.4127	3.5305	8.2700e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		651.8645	651.8645	0.0337		652.5711
Total	0.3527	1.2470	5.2272	0.0105	0.8279	0.0185	0.8464	0.2208	0.0170	0.2378		866.2630	866.2630	0.0355		867.0081

3.4 Phase 3-Substation Equipment Installation - 2017**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	1.1050	9.0971	7.2117	0.0101		0.7010	0.7010		0.6634	0.6634	0.0000	998.4634	998.4634	0.2306		1,003.3053
Total	1.1050	9.0971	7.2117	0.0101		0.7010	0.7010		0.6634	0.6634	0.0000	998.4634	998.4634	0.2306		1,003.3053

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	7.1000e-004	7.2800e-003	8.7600e-003	2.0000e-005	1.3600e-003	1.1000e-004	1.4700e-003	3.5000e-004	1.0000e-004	4.5000e-004		2.2658	2.2658	2.0000e-005		2.2661
Vendor	0.1290	0.8270	1.6879	2.1600e-003	0.0602	0.0134	0.0736	0.0172	0.0124	0.0295		212.1328	212.1328	1.8100e-003		212.1708
Worker	0.2230	0.4127	3.5305	8.2700e-003	0.7664	4.9500e-003	0.7713	0.2032	4.5500e-003	0.2078		651.8645	651.8645	0.0337		652.5711
Total	0.3527	1.2470	5.2272	0.0105	0.8279	0.0185	0.8464	0.2208	0.0170	0.2378		866.2630	866.2630	0.0355		867.0081

3.4 Phase 3-Substation Equipment Installation - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9572	8.0281	7.0765	0.0101		0.5891	0.5891		0.5581	0.5581		988.4721	988.4721	0.2266		993.2298
Total	0.9572	8.0281	7.0765	0.0101		0.5891	0.5891		0.5581	0.5581		988.4721	988.4721	0.2266		993.2298

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	6.2000e-004	6.5100e-003	8.2300e-003	2.0000e-005	7.4000e-004	1.1000e-004	8.4000e-004	2.0000e-004	1.0000e-004	2.9000e-004		2.2256	2.2256	2.0000e-005		2.2259
Vendor	0.1094	0.7432	1.5613	2.1500e-003	0.0602	0.0123	0.0725	0.0172	0.0113	0.0285		208.3768	208.3768	1.7600e-003		208.4138
Worker	0.1940	0.3703	3.1232	8.2900e-003	0.7664	4.8200e-003	0.7712	0.2032	4.4600e-003	0.2077		629.6534	629.6534	0.0311		630.3055
Total	0.3040	1.1200	4.6927	0.0105	0.8273	0.0172	0.8445	0.2206	0.0159	0.2365		840.2558	840.2558	0.0328		840.9453

3.4 Phase 3-Substation Equipment Installation - 2018

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	0.9572	8.0281	7.0765	0.0101		0.5891	0.5891		0.5581	0.5581	0.0000	988.4721	988.4721	0.2266		993.2298
Total	0.9572	8.0281	7.0765	0.0101		0.5891	0.5891		0.5581	0.5581	0.0000	988.4721	988.4721	0.2266		993.2298

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	6.2000e-004	6.5100e-003	8.2300e-003	2.0000e-005	7.4000e-004	1.1000e-004	8.4000e-004	2.0000e-004	1.0000e-004	2.9000e-004		2.2256	2.2256	2.0000e-005		2.2259
Vendor	0.1094	0.7432	1.5613	2.1500e-003	0.0602	0.0123	0.0725	0.0172	0.0113	0.0285		208.3768	208.3768	1.7600e-003		208.4138
Worker	0.1940	0.3703	3.1232	8.2900e-003	0.7664	4.8200e-003	0.7712	0.2032	4.4600e-003	0.2077		629.6534	629.6534	0.0311		630.3055
Total	0.3040	1.1200	4.6927	0.0105	0.8273	0.0172	0.8445	0.2206	0.0159	0.2365		840.2558	840.2558	0.0328		840.9453

3.5 Phase 4a-Power line re-route: Install TSP Foundations - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9279	11.7599	5.7783	0.0164		0.4572	0.4572		0.4206	0.4206		1,648.6993	1,648.6993	0.5133		1,659.4778
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9279	11.7599	5.7783	0.0164		0.4572	0.4572		0.4206	0.4206		1,648.6993	1,648.6993	0.5133		1,659.4778

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	1.8900e-003	0.0197	0.0250	7.0000e-005	1.6300e-003	3.3000e-004	1.9600e-003	4.5000e-004	3.0000e-004	7.5000e-004		6.7544	6.7544	5.0000e-005		6.7554
Vendor	0.0875	0.5946	1.2490	1.7200e-003	0.0481	9.8400e-003	0.0580	0.0137	9.0500e-003	0.0228		166.7014	166.7014	1.4100e-003		166.7311
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0894	0.6143	1.2740	1.7900e-003	0.0498	0.0102	0.0599	0.0142	9.3500e-003	0.0235		173.4558	173.4558	1.4600e-003		173.4865

3.5 Phase 4a-Power line re-route: Install TSP Foundations - 2018**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	0.9279	11.7599	5.7783	0.0164		0.4572	0.4572		0.4206	0.4206	0.0000	1,648.6993	1,648.6993	0.5133		1,659.4778
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9279	11.7599	5.7783	0.0164		0.4572	0.4572		0.4206	0.4206	0.0000	1,648.6993	1,648.6993	0.5133		1,659.4778

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	1.8900e-003	0.0197	0.0250	7.0000e-005	1.6300e-003	3.3000e-004	1.9600e-003	4.5000e-004	3.0000e-004	7.5000e-004		6.7544	6.7544	5.0000e-005		6.7554
Vendor	0.0875	0.5946	1.2490	1.7200e-003	0.0481	9.8400e-003	0.0580	0.0137	9.0500e-003	0.0228		166.7014	166.7014	1.4100e-003		166.7311
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0894	0.6143	1.2740	1.7900e-003	0.0498	0.0102	0.0599	0.0142	9.3500e-003	0.0235		173.4558	173.4558	1.4600e-003		173.4865

3.6 Phase 4b-Power line re-route: Install TSP - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0991	0.0000	0.0991	0.0107	0.0000	0.0107			0.0000			0.0000
Off-Road	2.9426	32.9315	22.0345	0.0341		1.5933	1.5933		1.4666	1.4666		3,413.1390	3,413.1390	1.0554		3,435.3025
Total	2.9426	32.9315	22.0345	0.0341	0.0991	1.5933	1.6924	0.0107	1.4666	1.4773		3,413.1390	3,413.1390	1.0554		3,435.3025

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	9.2000e-004	9.6500e-003	0.0122	3.0000e-005	8.0000e-004	1.6000e-004	9.6000e-004	2.2000e-004	1.5000e-004	3.6000e-004		3.3004	3.3004	2.0000e-005		3.3009
Vendor	0.2407	1.6350	3.4348	4.7400e-003	0.1324	0.0271	0.1594	0.0378	0.0249	0.0627		458.4289	458.4289	3.8800e-003		458.5104
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.2416	1.6447	3.4470	4.7700e-003	0.1332	0.0272	0.1604	0.0380	0.0250	0.0630		461.7293	461.7293	3.9000e-003		461.8114

3.6 Phase 4b-Power line re-route: Install TSP - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0991	0.0000	0.0991	0.0107	0.0000	0.0107			0.0000			0.0000
Off-Road	2.9426	32.9315	22.0345	0.0341		1.5933	1.5933		1.4666	1.4666	0.0000	3,413.1390	3,413.1390	1.0554		3,435.3025
Total	2.9426	32.9315	22.0345	0.0341	0.0991	1.5933	1.6924	0.0107	1.4666	1.4773	0.0000	3,413.1390	3,413.1390	1.0554		3,435.3025

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	9.2000e-004	9.6500e-003	0.0122	3.0000e-005	8.0000e-004	1.6000e-004	9.6000e-004	2.2000e-004	1.5000e-004	3.6000e-004		3.3004	3.3004	2.0000e-005		3.3009
Vendor	0.2407	1.6350	3.4348	4.7400e-003	0.1324	0.0271	0.1594	0.0378	0.0249	0.0627		458.4289	458.4289	3.8800e-003		458.5104
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.2416	1.6447	3.4470	4.7700e-003	0.1332	0.0272	0.1604	0.0380	0.0250	0.0630		461.7293	461.7293	3.9000e-003		461.8114

3.7 Phase 4c-Power line re-route: String Power line - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3594	14.1168	8.7966	0.0139		0.8425	0.8425		0.7751	0.7751		1,397.5514	1,397.5514	0.4351		1,406.6880
Total	1.3594	14.1168	8.7966	0.0139	0.0000	0.8425	0.8425	0.0000	0.7751	0.7751		1,397.5514	1,397.5514	0.4351		1,406.6880

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.5500e-003	0.0579	0.0732	2.0000e-004	4.7800e-003	9.6000e-004	5.7300e-003	1.3100e-003	8.8000e-004	2.1900e-003		19.8025	19.8025	1.5000e-004		19.8056
Vendor	0.0875	0.5946	1.2490	1.7200e-003	0.0481	9.8400e-003	0.0580	0.0137	9.0500e-003	0.0228		166.7014	166.7014	1.4100e-003		166.7311
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0931	0.6524	1.3223	1.9200e-003	0.0529	0.0108	0.0637	0.0151	9.9300e-003	0.0250		186.5039	186.5039	1.5600e-003		186.5367

3.7 Phase 4c-Power line re-route: String Power line - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3594	14.1168	8.7966	0.0139		0.8425	0.8425		0.7751	0.7751	0.0000	1,397.5514	1,397.5514	0.4351		1,406.6880
Total	1.3594	14.1168	8.7966	0.0139	0.0000	0.8425	0.8425	0.0000	0.7751	0.7751	0.0000	1,397.5514	1,397.5514	0.4351		1,406.6880

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.5500e-003	0.0579	0.0732	2.0000e-004	4.7800e-003	9.6000e-004	5.7300e-003	1.3100e-003	8.8000e-004	2.1900e-003		19.8025	19.8025	1.5000e-004		19.8056
Vendor	0.0875	0.5946	1.2490	1.7200e-003	0.0481	9.8400e-003	0.0580	0.0137	9.0500e-003	0.0228		166.7014	166.7014	1.4100e-003		166.7311
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0931	0.6524	1.3223	1.9200e-003	0.0529	0.0108	0.0637	0.0151	9.9300e-003	0.0250		186.5039	186.5039	1.5600e-003		186.5367

3.8 Phase 4d-Power line re-route: Remove pull site and restore property - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8885	9.0836	8.3809	0.0114		0.6173	0.6173		0.5679	0.5679		1,143.0123	1,143.0123	0.3558		1,150.4849
Total	0.8885	9.0836	8.3809	0.0114	0.0000	0.6173	0.6173	0.0000	0.5679	0.5679		1,143.0123	1,143.0123	0.3558		1,150.4849

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	1.7700e-003	0.0185	0.0234	6.0000e-005	1.5200e-003	3.0000e-004	1.8300e-003	4.2000e-004	2.8000e-004	7.0000e-004		6.3139	6.3139	5.0000e-005		6.3148
Vendor	0.1313	0.8918	1.8736	2.5800e-003	0.0722	0.0148	0.0870	0.0206	0.0136	0.0342		250.0521	250.0521	2.1200e-003		250.0966
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1331	0.9103	1.8969	2.6400e-003	0.0737	0.0151	0.0888	0.0210	0.0139	0.0349		256.3660	256.3660	2.1700e-003		256.4114

3.8 Phase 4d-Power line re-route: Remove pull site and restore property - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8885	9.0836	8.3809	0.0114		0.6173	0.6173		0.5679	0.5679	0.0000	1,143.0123	1,143.0123	0.3558		1,150.4849
Total	0.8885	9.0836	8.3809	0.0114	0.0000	0.6173	0.6173	0.0000	0.5679	0.5679	0.0000	1,143.0123	1,143.0123	0.3558		1,150.4849

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	1.7700e-003	0.0185	0.0234	6.0000e-005	1.5200e-003	3.0000e-004	1.8300e-003	4.2000e-004	2.8000e-004	7.0000e-004		6.3139	6.3139	5.0000e-005		6.3148
Vendor	0.1313	0.8918	1.8736	2.5800e-003	0.0722	0.0148	0.0870	0.0206	0.0136	0.0342		250.0521	250.0521	2.1200e-003		250.0966
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1331	0.9103	1.8969	2.6400e-003	0.0737	0.0151	0.0888	0.0210	0.0139	0.0349		256.3660	256.3660	2.1700e-003		256.4114

3.9 Phase 5: Equipment Removal and Clean-up - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.6797	49.0341	35.8395	0.0538		2.6872	2.6872		2.4890	2.4890		5,373.8768	5,373.8768	1.5846		5,407.1542
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	4.6797	49.0341	35.8395	0.0538		2.6872	2.6872		2.4890	2.4890		5,373.8768	5,373.8768	1.5846		5,407.1542

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	0.0690	0.7204	0.9113	2.5300e-003	0.0595	0.0119	0.0714	0.0163	0.0109	0.0272		246.4314	246.4314	1.8200e-003		246.4697
Vendor	0.1313	0.8918	1.8736	2.5800e-003	0.0722	0.0148	0.0870	0.0206	0.0136	0.0342		250.0521	250.0521	2.1200e-003		250.0966
Worker	0.1940	0.3703	3.1232	8.2900e-003	0.7664	4.8200e-003	0.7712	0.2032	4.4600e-003	0.2077		629.6534	629.6534	0.0311		630.3055
Total	0.3943	1.9825	5.9080	0.0134	0.8980	0.0315	0.9295	0.2402	0.0290	0.2691		1,126.1370	1,126.1370	0.0350		1,126.8718

3.9 Phase 5: Equipment Removal and Clean-up - 2018**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	4.6797	49.0341	35.8395	0.0538		2.6872	2.6872		2.4890	2.4890	0.0000	5,373.8768	5,373.8768	1.5846		5,407.1542
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	4.6797	49.0341	35.8395	0.0538		2.6872	2.6872		2.4890	2.4890	0.0000	5,373.8768	5,373.8768	1.5846		5,407.1542

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	0.0690	0.7204	0.9113	2.5300e-003	0.0595	0.0119	0.0714	0.0163	0.0109	0.0272		246.4314	246.4314	1.8200e-003		246.4697
Vendor	0.1313	0.8918	1.8736	2.5800e-003	0.0722	0.0148	0.0870	0.0206	0.0136	0.0342		250.0521	250.0521	2.1200e-003		250.0966
Worker	0.1940	0.3703	3.1232	8.2900e-003	0.7664	4.8200e-003	0.7712	0.2032	4.4600e-003	0.2077		629.6534	629.6534	0.0311		630.3055
Total	0.3943	1.9825	5.9080	0.0134	0.8980	0.0315	0.9295	0.2402	0.0290	0.2691		1,126.1370	1,126.1370	0.0350		1,126.8718

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	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
General Light Industry	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
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.438302	0.063917	0.163234	0.169914	0.042886	0.007084	0.019490	0.082149	0.002063	0.001756	0.006579	0.000764	0.001861

5.0 Energy Detail

4.4 Fleet Mix

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					
General Light Industry	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	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

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					
General Light Industry	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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	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

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

7.0 Water Detail

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

Attachment B

Response to #15

**Revised Table 3.3-6: Estimated Criteria Pollutant
Emissions during Construction**

[Note: Deficiency request is in italics, followed by PG&E's response.]

15: Update Air Quality calculations to use the most recent EMFAC and OFFROAD emission factors. Provide spreadsheets to facilitate CPUC review-- Provide a revised PEA Table 3.3-6, indicating tons/year emissions.

Sanger Substation Expansion Project: Revised Table 3.3-6

Table 3.3-6: Estimated Criteria Pollutant Emissions during Construction

Criteria Emissions	Daily Maximum lbs/day	2017 Tons/yr	2018 Tons/yr	Project Total Tons	Applicable Threshold Tons/yr	Threshold Exceeded?
Volatile Organic Compounds (VOCs)	5.08	0.28	0.39	0.68	10	No
Carbon Monoxide (CO)	41.75	2.29	3.28	5.57		
Oxides of Nitrogen (NO _x as NO ₂)	51.02	2.62	3.78	6.41	10	No
Sulfur Dioxide (SO _x as SO ₂)	0.07	0.004	0.006	0.01		
Particulates (PM ₁₀)						
• Combustion Particulates (C-PM ₁₀)	2.72	0.15	0.21	0.35		
• Fugitive Dust (F-PM ₁₀)	1.06	0.09	0.11	0.20		
• Total (PM ₁₀)	3.78	0.24	0.31	0.55	15	No
Particulates (PM _{2.5})						
• Combustion Particulates (C-PM _{2.5})	2.52	0.13	0.19	0.33		
• Fugitive Dust (F-PM _{2.5})	0.27	0.02	0.03	0.05		
• Total (PM _{2.5})	2.79	0.16	0.22	0.38	15	No

Attachment C

Response to #22

Revised Table 3.16-3: Estimated Truck Trips

[Note: Deficiency request is in italics, followed by PG&E's response.]

#22: *Provide more detail regarding trip generation during AM and PM peak hours.*

PG&E Revised PEA Table (Section 3.16, page 3-16-6):

a) Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? *Less than Significant*

During construction, trips would be generated by construction workers, equipment deliveries, and materials delivery trucks. Construction support trucks, including fuel trucks, rigging trucks, and water trucks will also be used during construction. These support trucks are anticipated to operate both on- and offsite, resupplying as needed. The amount of traffic will vary according to construction phase, as shown in Table 3.16-3. It is anticipated that during construction the maximum number of construction workers that would be required onsite at any given time would be 30. The entire project is anticipated to take approximately 19 months to complete, with gaps in the schedule due to equipment delivery logistics, power load consideration, and other factors. Moreover, temporary delays in construction could occur as a result of seasonal storm events. Types of trucks used throughout construction will vary by construction phase. It is assumed that equipment such as excavators and backhoes would remain onsite for use in other construction phases, and thus would not cumulatively add to daily truck traffic. Mobile construction support trucks, including ¾-ton pickup trucks and fuel trucks would be anticipated to travel daily from point of origin to the project area. Table 3.16-3 summarizes the estimated number of trips that will be completed by construction-related trucks during the project. Assumptions are listed at the bottom of the table. It is important to note that not all trucks will be required on all days and not all trips will occur at the same time. In addition, not all trips will affect the same roads. It is likely that most vehicles will access the project site from SR 180, exiting at McCall Avenue and heading south to the project site. Others may approach from East Jensen Avenue.

Table 3.16-3: Estimated Truck Trips

	Construction Phase							
	Phase 1 Site Grading, Access Roads, and Security Fence Installation	Phase 2 Foundations and Footings	Phase 3 Equipment and Component Installation	Phases 4a ¹ Power Line Reroutes; Install TSP Foundations	Phases 4b ¹ Power Line Reroutes; Install TSPs	Phases 4c ¹ Power Line Reroutes; String Power Lines	Phases 4d ¹ Power Line Reroutes; Remove Pull Sites and Restore Impacted Property	Phase 5 Equipment Removal/Cleanup
Worker Trips (Estimated)								
No. of Workers	30	30	30	—	—	—	—	30
Daily Worker Trips ²	30 (am) 30 (pm)	30 (am) 30 (pm)	30 (am) 30 (pm)	—	—	—	—	30 (am) 30 (pm)
No. of Work Days ³	66	66	261	43	44	22	23	66
Total Worker Truck Trips⁴	3,960	3,960	15,660	—	—	—	—	3,960
Construction Equipment Trips								
No. of Trucks to Deliver Equipment ^{5,6}	9	6	4	2	1	3	1	14 ⁷
– No. of Work Days ⁸	1	1	1	1	1	1	1	1
– Daily Trips	1 (drop-off equipment) 1 (leave site)	1 (drop-off equipment) 1 (leave site)	1 (drop-off equipment) 1 (leave site)	1 (drop-off equipment) 1 (leave site)	1 (drop-off equipment) 1 (pick-up equipment)	1 (drop-off equipment) 1 (pick-up equipment)	1 (drop-off equipment) 1 (pick-up equipment)	2 (drop-off equipment not previously used in other phases) 14 (pick-up all equipment)
Total Equipment- related	18	12	8	4	2	6	2	224

	Construction Phase							
	Phase 1 Site Grading, Access Roads, and Security Fence Installation	Phase 2 Foundations and Footings	Phase 3 Equipment and Component Installation	Phases 4a ¹ Power Line Reroutes; Install TSP Foundations	Phases 4b ¹ Power Line Reroutes; Install TSPs	Phases 4c ¹ Power Line Reroutes; String Power Lines	Phases 4d ¹ Power Line Reroutes; Remove Pull Sites and Restore Impacted Property	Phase 5 Equipment Removal/Cleanup
Delivery/Removal Trips⁹								
Other Construction Support Trucks ¹⁰	8	8	5	4	11	4	6	6
– No. of Work Days	66	66	261	43	44	22	23	66
– Daily Trips (maximum)	8 (arrival) 8 (departure)	8 (arrival) 8 (departure)	5 (arrival) 5 (departure)	4 (arrival) 4 (departure)	11 (arrival) 11 (departure)	4 (arrival) 4 (departure)	6 (arrival) 6 (departure)	6 (arrival) 6 (departure)
Total Other Construction Support Truck Trips¹¹	1,056	1,056	2,610	344	968	176	276	792
Total Construction Equipment Truck Trips¹²	1,074	1,068	2,618	348	970	172	278	1,016
TOTAL MAXIMUM DAILY TRIPS¹³	78	78	72	20	24	10	14	88
TOTAL PROJECT TRUCK TRIPS¹⁴	5,034	5,028	18,278	2,928	3,610	1,492	1,658	4,976

Assumptions

¹Work will be performed in parallel with Phase 3; therefore, it is anticipated that some workers included in Phase 3 construction would be tasked with completing the actions necessary for Phases 4a-4d. There would be no more than 30 workers total onsite at any given time.

²Workers would travel to the worksite individually.

³Work would occur five days per week (Monday through Friday).

⁴Total Worker Truck Trips = (No. of Daily Worker Trips x No. of Work Days)

⁵Heavy trucks (2-60 tons) (e.g., flatbeds, semi tractor-trailers). These trucks would move necessary construction equipment to the work site then return to haul equipment away after construction. Assume equipment from previous phase would remain onsite throughout construction (Equipment Removal/Cleanup phase).

⁶Number of trucks per phase assumes equipment delivered to project site for site grading and access would be used for other construction phases; thus, no additional truck trips would be necessary. Number of trucks to deliver equipment shown are not cumulative.

⁷The total number of trucks that would access the project site during Phase 5 would include two trucks to drop off equipment not previously used in other phases and 12 trucks to return to the site to pick-up equipment that remained onsite during construction activities associated with previous phases.

⁸Trucks would deliver equipment to remain onsite during construction and depart project site on same day

⁹Total Equipment-related Delivery/Removal Trips = (No. of Trucks to Deliver Equipment x No. of Work Days)

¹⁰Other trucks include support trucks (e.g., fuel trucks, mechanics trucks, water trucks, etc.) that could reasonably be expected to operate on- and offsite daily during project construction.

¹¹Total Construction Truck Trips = (No. of Daily Trips x No. of Work Days)

¹²Total Project Truck Trips per Phase = (Total Equipment-related Delivery/Removal Trips + Total Other Construction Support Truck Trips). For calculation purposes, the maximum of 30 workers onsite per day for each phase of Phase 4 was used to estimate the Total Project Truck Trips per Phase.

¹³Total Maximum Daily Truck Trips = (Daily Worker Trips + No. of Trucks to Deliver Equipment, Daily Trips + Other Construction Support Truck Trips, Daily Trips (maximum))

¹⁴Total Project Truck Trips = (Total Worker Truck Trips + Total Construction Equipment Truck Trips)

