

Appendix A
Air Quality and Greenhouse Gases

OCPW EGGW Channel Improvement Project - Orange County, Summer

OCPW EGGW Channel Improvement Project
Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|-------------------------|-------|----------|-------------|--------------------|------------|
| Other Asphalt Surfaces | 3.42 | Acre | 3.42 | 148,975.20 | 0 |
| General Office Building | 1.00 | 1000sqft | 0.02 | 1,000.00 | 0 |
| City Park | 13.11 | Acre | 13.11 | 571,071.60 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 30 |
| Climate Zone | 8 | | | Operational Year | 2021 |
| Utility Company | Southern California Edison | | | | |
| CO2 Intensity (lb/MW hr) | 702.44 | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Start of construction assumed to be late 2018. In the event that construction occurs later, emissions would be lower due to the retirement of older, higher-emitting pieces of equipment.

Land Use - Other asphalt surfaces land use type used to represent 3.42 acres of maintenance roads on top of soil cement columns, city park land use type used to represent sheet piling/soil cement column installation (13.11-acre site); two office buildings (approximately 500 sf each) are assumed and operational emissions will be added to the construction emissions.

Construction Phase - Phases and durations provided by project manager; phase type has been approximated to capture the types of activities that would be performed under during each phase. Approximately one-month overlaps would occur between the first through third phases.

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors for the crane is default, and horsepower for the piling equipment power units (generators) was provided by OCPW

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default for dozers and backhoe; horsepower for drill rigs, cement mixers, and pumps were provided by OCPW.

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list and horsepower provided by OCPW; load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Grading - Approximately 104,000 cy of soil cement would be used to do the columns; excavation within the channel would require approximately 142,000 cy of export

Trips and VMT - Worker trip estimates provided by OCPW. Deliveries of cement and piles assumed to be equally divided for the pile installation phase. Export to occur during grading/excavation in channel phase. All trip lengths are defaults.

Vehicle Trips - County inspector trips captured in the operational mobile emissions; contractor trips are captured in the construction mobile emissions. After construction, maintenance would be minimal, and would not increase relative to existing conditions.

Area Coating - No architectural coatings would be applied.

Energy Use -

Construction Off-road Equipment Mitigation - Rule 403

| Table Name | Column Name | Default Value | New Value |
|----------------------|------------------------------|---------------|-----------|
| tblAreaCoating | Area_Nonresidential_Exterior | 286036 | 0 |
| tblAreaCoating | Area_Nonresidential_Interior | 858108 | 0 |
| tblAreaCoating | Area_Parking | 8939 | 0 |
| tblConstructionPhase | NumDays | 30.00 | 200.00 |
| tblConstructionPhase | NumDays | 30.00 | 100.00 |

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| | | | |
|----------------------|------------------|------------|------------|
| tblConstructionPhase | NumDays | 20.00 | 15.00 |
| tblConstructionPhase | NumDays | 30.00 | 45.00 |
| tblConstructionPhase | NumDays | 10.00 | 45.00 |
| tblConstructionPhase | NumDays | 10.00 | 45.00 |
| tblConstructionPhase | NumDays | 300.00 | 150.00 |
| tblConstructionPhase | PhaseEndDate | 12/7/2018 | 2/4/2020 |
| tblConstructionPhase | PhaseEndDate | 1/18/2019 | 6/23/2020 |
| tblConstructionPhase | PhaseEndDate | 4/24/2020 | 9/15/2020 |
| tblConstructionPhase | PhaseEndDate | 3/1/2019 | 8/25/2020 |
| tblConstructionPhase | PhaseEndDate | 10/12/2018 | 11/30/2018 |
| tblConstructionPhase | PhaseEndDate | 5/22/2020 | 11/17/2020 |
| tblConstructionPhase | PhaseEndDate | 10/26/2018 | 5/29/2019 |
| tblConstructionPhase | PhaseStartDate | 10/27/2018 | 5/1/2019 |
| tblConstructionPhase | PhaseStartDate | 12/8/2018 | 2/5/2020 |
| tblConstructionPhase | PhaseStartDate | 3/2/2019 | 8/26/2020 |
| tblConstructionPhase | PhaseStartDate | 1/19/2019 | 6/24/2020 |
| tblConstructionPhase | PhaseStartDate | 4/25/2020 | 9/16/2020 |
| tblConstructionPhase | PhaseStartDate | 10/13/2018 | 11/1/2018 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | MaterialExported | 0.00 | 141,694.00 |
| tblGrading | MaterialImported | 0.00 | 104,271.00 |
| tblOffRoadEquipment | HorsePower | 158.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 247.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 221.00 | 450.00 |

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| | | | |
|---------------------|----------------------------|-------|---------------------------|
| tblOffRoadEquipment | HorsePower | 9.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 97.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 350.00 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.40 | 0.40 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Bore/Drill Rigs |
| tblOffRoadEquipment | OffRoadEquipmentType | | Cement and Mortar Mixers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 2.00 |

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| | | | |
|---------------------|----------------------------|--------|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | PhaseName | | Asphalt paving of maintenance roads |
| tblOffRoadEquipment | PhaseName | | Landscaping |
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | PhaseName | | Landscaping |
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | UsageHours | 8.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 4.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 4.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 60.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 12.00 |
| tblTripsAndVMT | VendorTripNumber | 118.00 | 48.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 303.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 5.00 | 20.00 |

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| | | | |
|-----------------|------------------|-------|-------|
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblVehicleTrips | ST_TR | 2.46 | 0.00 |
| tblVehicleTrips | SU_TR | 1.05 | 0.00 |
| tblVehicleTrips | WD_TR | 11.03 | 6.00 |

2.0 Emissions Summary

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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 | | | | | |
| 2018 | 6.3172 | 70.8431 | 33.5051 | 0.1008 | 12.8747 | 2.9479 | 15.8225 | 6.8494 | 2.7644 | 9.6138 | 0.0000 | 10,852.64 35 | 10,852.64 35 | 1.4345 | 0.0000 | 10,888.50 53 |
| 2019 | 5.8594 | 63.5231 | 33.2060 | 0.1546 | 1.6826 | 1.9195 | 3.6021 | 0.6598 | 1.8594 | 2.5192 | 0.0000 | 16,758.71 55 | 16,758.71 55 | 1.8867 | 0.0000 | 16,805.88 31 |
| 2020 | 3.4745 | 34.6444 | 27.9859 | 0.0887 | 38.4545 | 1.4980 | 39.9526 | 20.4020 | 1.3782 | 21.7802 | 0.0000 | 9,364.989 1 | 9,364.989 1 | 1.4158 | 0.0000 | 9,400.383 6 |
| Maximum | 6.3172 | 70.8431 | 33.5051 | 0.1546 | 38.4545 | 2.9479 | 39.9526 | 20.4020 | 2.7644 | 21.7802 | 0.0000 | 16,758.71 55 | 16,758.71 55 | 1.8867 | 0.0000 | 16,805.88 31 |

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 | | | | | |
| 2018 | 6.3172 | 70.8431 | 33.5051 | 0.1008 | 5.5277 | 2.9479 | 8.4756 | 2.8109 | 2.7644 | 5.5753 | 0.0000 | 10,852.64 35 | 10,852.64 35 | 1.4345 | 0.0000 | 10,888.50 53 |
| 2019 | 5.8594 | 63.5231 | 33.2060 | 0.1546 | 1.1842 | 1.9195 | 3.1038 | 0.4016 | 1.8594 | 2.2610 | 0.0000 | 16,758.71 55 | 16,758.71 55 | 1.8867 | 0.0000 | 16,805.88 31 |
| 2020 | 3.4745 | 34.6444 | 27.9859 | 0.0887 | 16.1534 | 1.4980 | 17.6514 | 8.2490 | 1.3782 | 9.6273 | 0.0000 | 9,364.989 1 | 9,364.989 1 | 1.4158 | 0.0000 | 9,400.383 6 |
| Maximum | 6.3172 | 70.8431 | 33.5051 | 0.1546 | 16.1534 | 2.9479 | 17.6514 | 8.2490 | 2.7644 | 9.6273 | 0.0000 | 16,758.71 55 | 16,758.71 55 | 1.8867 | 0.0000 | 16,805.88 31 |

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| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 56.87 | 0.00 | 50.77 | 58.94 | 0.00 | 48.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

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2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Energy | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| Mobile | 0.0100 | 0.0406 | 0.1333 | 4.8000e-004 | 0.0410 | 4.7000e-004 | 0.0415 | 0.0110 | 4.4000e-004 | 0.0114 | | 48.5371 | 48.5371 | 2.0300e-003 | | 48.5879 |
| Total | 0.1125 | 0.0431 | 0.1372 | 4.9000e-004 | 0.0410 | 6.7000e-004 | 0.0417 | 0.0110 | 6.4000e-004 | 0.0116 | | 51.4869 | 51.4869 | 2.1000e-003 | 5.0000e-005 | 51.5555 |

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 | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Energy | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| Mobile | 0.0100 | 0.0406 | 0.1333 | 4.8000e-004 | 0.0410 | 4.7000e-004 | 0.0415 | 0.0110 | 4.4000e-004 | 0.0114 | | 48.5371 | 48.5371 | 2.0300e-003 | | 48.5879 |
| Total | 0.1125 | 0.0431 | 0.1372 | 4.9000e-004 | 0.0410 | 6.7000e-004 | 0.0417 | 0.0110 | 6.4000e-004 | 0.0116 | | 51.4869 | 51.4869 | 2.1000e-003 | 5.0000e-005 | 51.5555 |

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

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|---|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Site preparation of levees, infiltration cistern | Site Preparation | 10/1/2018 | 11/30/2018 | 5 | 45 | |
| 2 | Sheet pile installation | Building Construction | 11/1/2018 | 5/29/2019 | 5 | 150 | |
| 3 | Soil cement mixing, levee work, maintenance road prep | Grading | 5/1/2019 | 2/4/2020 | 5 | 200 | |
| 4 | Pile caps and retaining walls | Grading | 2/5/2020 | 6/23/2020 | 5 | 100 | |
| 5 | Grading/excavation inside channel | Grading | 6/24/2020 | 8/25/2020 | 5 | 45 | |
| 6 | Asphalt paving of maintenance roads | Paving | 8/26/2020 | 9/15/2020 | 5 | 15 | |
| 7 | Landscaping | Site Preparation | 9/16/2020 | 11/17/2020 | 5 | 45 | |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.42

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

OffRoad Equipment

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| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---------------------------|--------|-------------|-------------|-------------|
| Soil cement mixing, levee work, maintenance road prep | Tractors/Loaders/Backhoes | 1 | 1.00 | 97 | 0.37 |
| Grading/excavation inside channel | Excavators | 1 | 4.00 | 350 | 0.38 |
| Grading/excavation inside channel | Rubber Tired Dozers | 2 | 8.00 | 350 | 0.40 |
| Asphalt paving of maintenance roads | Rubber Tired Loaders | 1 | 6.00 | 203 | 0.36 |
| Landscaping | Rubber Tired Dozers | 1 | 6.00 | 247 | 0.40 |
| Sheet pile installation | Cranes | 1 | 8.00 | 231 | 0.29 |
| Soil cement mixing, levee work, maintenance road prep | Bore/Drill Rigs | 2 | 8.00 | 450 | 0.50 |
| Soil cement mixing, levee work, maintenance road prep | Cement and Mortar Mixers | 2 | 8.00 | 350 | 0.56 |
| Asphalt paving of maintenance roads | Pavers | 1 | 8.00 | 130 | 0.42 |
| Landscaping | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Asphalt paving of maintenance roads | Rollers | 1 | 8.00 | 80 | 0.38 |
| Site preparation of levees, infiltration cistern | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site preparation of levees, infiltration cistern | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Soil cement mixing, levee work, maintenance road prep | Pumps | 2 | 8.00 | 350 | 0.74 |
| Grading/excavation inside channel | Tractors/Loaders/Backhoes | 1 | 8.00 | 350 | 0.37 |
| Soil cement mixing, levee work, maintenance road prep | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Pile caps and retaining walls | Tractors/Loaders/Backhoes | 2 | 4.00 | 97 | 0.37 |
| Sheet pile installation | Generator Sets | 2 | 8.00 | 350 | 0.74 |

Trips and VMT

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| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Landscaping | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site preparation of levees, infiltration cist | 6 | 20.00 | 12.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Landscaping | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 60.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Sheet pile installation | 3 | 20.00 | 48.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Soil cement mixing, levee work, maintenanc | 8 | 30.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Pile caps and retaining walls | 2 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Asphalt paving of maintenance roads | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site preparation of levees, infiltration cistern - 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 | | | | | 12.0442 | 0.0000 | 12.0442 | 6.6205 | 0.0000 | 6.6205 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.3966 | 35.6388 | 18.0998 | 0.0295 | | 1.9663 | 1.9663 | | 1.8090 | 1.8090 | | 2,971.4505 | 2,971.4505 | 0.9251 | | 2,994.5768 |
| Total | 3.3966 | 35.6388 | 18.0998 | 0.0295 | 12.0442 | 1.9663 | 14.0105 | 6.6205 | 1.8090 | 8.4295 | | 2,971.4505 | 2,971.4505 | 0.9251 | | 2,994.5768 |

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3.2 Site preparation of levees, infiltration cistern - 2018

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0486 | 1.4315 | 0.3841 | 3.0300e-003 | 0.0767 | 0.0106 | 0.0873 | 0.0221 | 0.0101 | 0.0322 | | 329.1940 | 329.1940 | 0.0286 | | 329.9082 |
| Worker | 0.0896 | 0.0609 | 0.7856 | 2.3200e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 231.3351 | 231.3351 | 6.1300e-003 | | 231.4883 |
| Total | 0.1382 | 1.4924 | 1.1697 | 5.3500e-003 | 0.3002 | 0.0121 | 0.3123 | 0.0814 | 0.0115 | 0.0929 | | 560.5291 | 560.5291 | 0.0347 | | 561.3965 |

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 | | | | | 4.6972 | 0.0000 | 4.6972 | 2.5820 | 0.0000 | 2.5820 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.3966 | 35.6388 | 18.0998 | 0.0295 | | 1.9663 | 1.9663 | | 1.8090 | 1.8090 | 0.0000 | 2,971.4505 | 2,971.4505 | 0.9251 | | 2,994.5768 |
| Total | 3.3966 | 35.6388 | 18.0998 | 0.0295 | 4.6972 | 1.9663 | 6.6636 | 2.5820 | 1.8090 | 4.3910 | 0.0000 | 2,971.4505 | 2,971.4505 | 0.9251 | | 2,994.5768 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.2 Site preparation of levees, infiltration cistern - 2018

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0486 | 1.4315 | 0.3841 | 3.0300e-003 | 0.0767 | 0.0106 | 0.0873 | 0.0221 | 0.0101 | 0.0322 | | 329.1940 | 329.1940 | 0.0286 | | 329.9082 |
| Worker | 0.0896 | 0.0609 | 0.7856 | 2.3200e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 231.3351 | 231.3351 | 6.1300e-003 | | 231.4883 |
| Total | 0.1382 | 1.4924 | 1.1697 | 5.3500e-003 | 0.3002 | 0.0121 | 0.3123 | 0.0814 | 0.0115 | 0.0929 | | 560.5291 | 560.5291 | 0.0347 | | 561.3965 |

3.3 Sheet pile installation - 2018

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4984 | 27.9248 | 11.9136 | 0.0515 | | 0.9256 | 0.9256 | | 0.9020 | 0.9020 | | 5,772.5527 | 5,772.5527 | 0.3543 | | 5,781.4109 |
| Total | 2.4984 | 27.9248 | 11.9136 | 0.0515 | | 0.9256 | 0.9256 | | 0.9020 | 0.9020 | | 5,772.5527 | 5,772.5527 | 0.3543 | | 5,781.4109 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.3 Sheet pile installation - 2018

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.1944 | 5.7261 | 1.5363 | 0.0121 | 0.3067 | 0.0424 | 0.3491 | 0.0883 | 0.0405 | 0.1288 | | 1,316.7760 | 1,316.7760 | 0.1143 | | 1,319.6328 |
| Worker | 0.0896 | 0.0609 | 0.7856 | 2.3200e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 231.3351 | 231.3351 | 6.1300e-003 | | 231.4883 |
| Total | 0.2840 | 5.7870 | 2.3219 | 0.0145 | 0.5303 | 0.0439 | 0.5741 | 0.1476 | 0.0419 | 0.1894 | | 1,548.1112 | 1,548.1112 | 0.1204 | | 1,551.1210 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4984 | 27.9248 | 11.9136 | 0.0515 | | 0.9256 | 0.9256 | | 0.9020 | 0.9020 | 0.0000 | 5,772.5527 | 5,772.5527 | 0.3543 | | 5,781.4109 |
| Total | 2.4984 | 27.9248 | 11.9136 | 0.0515 | | 0.9256 | 0.9256 | | 0.9020 | 0.9020 | 0.0000 | 5,772.5527 | 5,772.5527 | 0.3543 | | 5,781.4109 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.3 Sheet pile installation - 2018

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.1944 | 5.7261 | 1.5363 | 0.0121 | 0.3067 | 0.0424 | 0.3491 | 0.0883 | 0.0405 | 0.1288 | | 1,316.7760 | 1,316.7760 | 0.1143 | | 1,319.6328 |
| Worker | 0.0896 | 0.0609 | 0.7856 | 2.3200e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 231.3351 | 231.3351 | 6.1300e-003 | | 231.4883 |
| Total | 0.2840 | 5.7870 | 2.3219 | 0.0145 | 0.5303 | 0.0439 | 0.5741 | 0.1476 | 0.0419 | 0.1894 | | 1,548.1112 | 1,548.1112 | 0.1204 | | 1,551.1210 |

3.3 Sheet pile installation - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3221 | 24.7905 | 11.5660 | 0.0515 | | 0.8211 | 0.8211 | | 0.8007 | 0.8007 | | 5,763.1653 | 5,763.1653 | 0.3452 | | 5,771.7946 |
| Total | 2.3221 | 24.7905 | 11.5660 | 0.0515 | | 0.8211 | 0.8211 | | 0.8007 | 0.8007 | | 5,763.1653 | 5,763.1653 | 0.3452 | | 5,771.7946 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.3 Sheet pile installation - 2019

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.1800 | 5.4470 | 1.4399 | 0.0121 | 0.3067 | 0.0368 | 0.3435 | 0.0883 | 0.0352 | 0.1235 | | 1,310.2506 | 1,310.2506 | 0.1106 | | 1,313.0158 |
| Worker | 0.0824 | 0.0541 | 0.7135 | 2.2600e-003 | 0.2236 | 1.4900e-003 | 0.2251 | 0.0593 | 1.3800e-003 | 0.0607 | | 225.2281 | 225.2281 | 5.5400e-003 | | 225.3665 |
| Total | 0.2624 | 5.5011 | 2.1534 | 0.0143 | 0.5303 | 0.0383 | 0.5686 | 0.1476 | 0.0366 | 0.1841 | | 1,535.4786 | 1,535.4786 | 0.1162 | | 1,538.3823 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3221 | 24.7905 | 11.5660 | 0.0515 | | 0.8211 | 0.8211 | | 0.8007 | 0.8007 | 0.0000 | 5,763.1653 | 5,763.1653 | 0.3452 | | 5,771.7946 |
| Total | 2.3221 | 24.7905 | 11.5660 | 0.0515 | | 0.8211 | 0.8211 | | 0.8007 | 0.8007 | 0.0000 | 5,763.1653 | 5,763.1653 | 0.3452 | | 5,771.7946 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.3 Sheet pile installation - 2019

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.1800 | 5.4470 | 1.4399 | 0.0121 | 0.3067 | 0.0368 | 0.3435 | 0.0883 | 0.0352 | 0.1235 | | 1,310.2506 | 1,310.2506 | 0.1106 | | 1,313.0158 |
| Worker | 0.0824 | 0.0541 | 0.7135 | 2.2600e-003 | 0.2236 | 1.4900e-003 | 0.2251 | 0.0593 | 1.3800e-003 | 0.0607 | | 225.2281 | 225.2281 | 5.5400e-003 | | 225.3665 |
| Total | 0.2624 | 5.5011 | 2.1534 | 0.0143 | 0.5303 | 0.0383 | 0.5686 | 0.1476 | 0.0366 | 0.1841 | | 1,535.4786 | 1,535.4786 | 0.1162 | | 1,538.3823 |

3.4 Soil cement mixing, levee work, maintenance road prep - 2019

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 | | | | | 0.8170 | 0.0000 | 0.8170 | 0.4233 | 0.0000 | 0.4233 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.1513 | 33.1504 | 18.4164 | 0.0854 | | 1.0579 | 1.0579 | | 1.0201 | 1.0201 | | 9,122.2294 | 9,122.2294 | 1.4171 | | 9,157.6564 |
| Total | 3.1513 | 33.1504 | 18.4164 | 0.0854 | 0.8170 | 1.0579 | 1.8750 | 0.4233 | 1.0201 | 1.4434 | | 9,122.2294 | 9,122.2294 | 1.4171 | | 9,157.6564 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.4 Soil cement mixing, levee work, maintenance road prep - 2019

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1236 | 0.0811 | 1.0702 | 3.3900e-003 | 0.3353 | 2.2400e-003 | 0.3376 | 0.0889 | 2.0600e-003 | 0.0910 | | 337.8421 | 337.8421 | 8.3100e-003 | | 338.0497 |
| Total | 0.1236 | 0.0811 | 1.0702 | 3.3900e-003 | 0.3353 | 2.2400e-003 | 0.3376 | 0.0889 | 2.0600e-003 | 0.0910 | | 337.8421 | 337.8421 | 8.3100e-003 | | 338.0497 |

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 | | | | | 0.3186 | 0.0000 | 0.3186 | 0.1651 | 0.0000 | 0.1651 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.1513 | 33.1504 | 18.4164 | 0.0854 | | 1.0579 | 1.0579 | | 1.0201 | 1.0201 | 0.0000 | 9,122.2294 | 9,122.2294 | 1.4171 | | 9,157.6564 |
| Total | 3.1513 | 33.1504 | 18.4164 | 0.0854 | 0.3186 | 1.0579 | 1.3766 | 0.1651 | 1.0201 | 1.1852 | 0.0000 | 9,122.2294 | 9,122.2294 | 1.4171 | | 9,157.6564 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.4 Soil cement mixing, levee work, maintenance road prep - 2019

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1236 | 0.0811 | 1.0702 | 3.3900e-003 | 0.3353 | 2.2400e-003 | 0.3376 | 0.0889 | 2.0600e-003 | 0.0910 | | 337.8421 | 337.8421 | 8.3100e-003 | | 338.0497 |
| Total | 0.1236 | 0.0811 | 1.0702 | 3.3900e-003 | 0.3353 | 2.2400e-003 | 0.3376 | 0.0889 | 2.0600e-003 | 0.0910 | | 337.8421 | 337.8421 | 8.3100e-003 | | 338.0497 |

3.4 Soil cement mixing, levee work, maintenance road prep - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.8170 | 0.0000 | 0.8170 | 0.4233 | 0.0000 | 0.4233 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.0040 | 29.6847 | 18.1296 | 0.0854 | | 0.9605 | 0.9605 | | 0.9253 | 0.9253 | | 9,037.9760 | 9,037.9760 | 1.4083 | | 9,073.1841 |
| Total | 3.0040 | 29.6847 | 18.1296 | 0.0854 | 0.8170 | 0.9605 | 1.7775 | 0.4233 | 0.9253 | 1.3486 | | 9,037.9760 | 9,037.9760 | 1.4083 | | 9,073.1841 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.4 Soil cement mixing, levee work, maintenance road prep - 2020

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1153 | 0.0726 | 0.9820 | 3.2800e-003 | 0.3353 | 2.2200e-003 | 0.3376 | 0.0889 | 2.0400e-003 | 0.0910 | | 327.0131 | 327.0131 | 7.4500e-003 | | 327.1995 |
| Total | 0.1153 | 0.0726 | 0.9820 | 3.2800e-003 | 0.3353 | 2.2200e-003 | 0.3376 | 0.0889 | 2.0400e-003 | 0.0910 | | 327.0131 | 327.0131 | 7.4500e-003 | | 327.1995 |

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 | | | | | 0.3186 | 0.0000 | 0.3186 | 0.1651 | 0.0000 | 0.1651 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.0040 | 29.6847 | 18.1296 | 0.0854 | | 0.9605 | 0.9605 | | 0.9253 | 0.9253 | 0.0000 | 9,037.9760 | 9,037.9760 | 1.4083 | | 9,073.1841 |
| Total | 3.0040 | 29.6847 | 18.1296 | 0.0854 | 0.3186 | 0.9605 | 1.2791 | 0.1651 | 0.9253 | 1.0904 | 0.0000 | 9,037.9760 | 9,037.9760 | 1.4083 | | 9,073.1841 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.4 Soil cement mixing, levee work, maintenance road prep - 2020

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1153 | 0.0726 | 0.9820 | 3.2800e-003 | 0.3353 | 2.2200e-003 | 0.3376 | 0.0889 | 2.0400e-003 | 0.0910 | | 327.0131 | 327.0131 | 7.4500e-003 | | 327.1995 |
| Total | 0.1153 | 0.0726 | 0.9820 | 3.2800e-003 | 0.3353 | 2.2200e-003 | 0.3376 | 0.0889 | 2.0400e-003 | 0.0910 | | 327.0131 | 327.0131 | 7.4500e-003 | | 327.1995 |

3.5 Pile caps and retaining walls - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.2095 | 2.1052 | 2.2797 | 3.1100e-003 | | 0.1331 | 0.1331 | | 0.1225 | 0.1225 | | 300.7685 | 300.7685 | 0.0973 | | 303.2004 |
| Total | 0.2095 | 2.1052 | 2.2797 | 3.1100e-003 | | 0.1331 | 0.1331 | | 0.1225 | 0.1225 | | 300.7685 | 300.7685 | 0.0973 | | 303.2004 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.5 Pile caps and retaining walls - 2020

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |
| Total | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |

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 | 0.2095 | 2.1052 | 2.2797 | 3.1100e-003 | | 0.1331 | 0.1331 | | 0.1225 | 0.1225 | 0.0000 | 300.7685 | 300.7685 | 0.0973 | | 303.2004 |
| Total | 0.2095 | 2.1052 | 2.2797 | 3.1100e-003 | | 0.1331 | 0.1331 | | 0.1225 | 0.1225 | 0.0000 | 300.7685 | 300.7685 | 0.0973 | | 303.2004 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.5 Pile caps and retaining walls - 2020

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |
| Total | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |

3.6 Grading/excavation inside channel - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 36.5593 | 0.0000 | 36.5593 | 19.9229 | 0.0000 | 19.9229 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.2339 | 34.1325 | 25.9293 | 0.0409 | | 1.4924 | 1.4924 | | 1.3730 | 1.3730 | | 3,965.1856 | 3,965.1856 | 1.2824 | | 3,997.2461 |
| Total | 3.2339 | 34.1325 | 25.9293 | 0.0409 | 36.5593 | 1.4924 | 38.0517 | 19.9229 | 1.3730 | 21.2959 | | 3,965.1856 | 3,965.1856 | 1.2824 | | 3,997.2461 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.6 Grading/excavation inside channel - 2020

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0101 | 0.3666 | 0.0926 | 1.0200e-003 | 0.0585 | 1.1900e-003 | 0.0597 | 0.0150 | 1.1400e-003 | 0.0161 | | 113.7411 | 113.7411 | 0.0118 | | 114.0358 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.2306 | 0.1453 | 1.9640 | 6.5600e-003 | 1.8368 | 4.4300e-003 | 1.8412 | 0.4641 | 4.0800e-003 | 0.4682 | | 654.0262 | 654.0262 | 0.0149 | | 654.3989 |
| Total | 0.2407 | 0.5119 | 2.0566 | 7.5800e-003 | 1.8952 | 5.6200e-003 | 1.9009 | 0.4791 | 5.2200e-003 | 0.4843 | | 767.7672 | 767.7672 | 0.0267 | | 768.4347 |

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 | | | | | 14.2581 | 0.0000 | 14.2581 | 7.7699 | 0.0000 | 7.7699 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.2339 | 34.1325 | 25.9293 | 0.0409 | | 1.4924 | 1.4924 | | 1.3730 | 1.3730 | 0.0000 | 3,965.1856 | 3,965.1856 | 1.2824 | | 3,997.2461 |
| Total | 3.2339 | 34.1325 | 25.9293 | 0.0409 | 14.2581 | 1.4924 | 15.7505 | 7.7699 | 1.3730 | 9.1429 | 0.0000 | 3,965.1856 | 3,965.1856 | 1.2824 | | 3,997.2461 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.6 Grading/excavation inside channel - 2020

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0101 | 0.3666 | 0.0926 | 1.0200e-003 | 0.0585 | 1.1900e-003 | 0.0597 | 0.0150 | 1.1400e-003 | 0.0161 | | 113.7411 | 113.7411 | 0.0118 | | 114.0358 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.2306 | 0.1453 | 1.9640 | 6.5600e-003 | 1.8368 | 4.4300e-003 | 1.8412 | 0.4641 | 4.0800e-003 | 0.4682 | | 654.0262 | 654.0262 | 0.0149 | | 654.3989 |
| Total | 0.2407 | 0.5119 | 2.0566 | 7.5800e-003 | 1.8952 | 5.6200e-003 | 1.9009 | 0.4791 | 5.2200e-003 | 0.4843 | | 767.7672 | 767.7672 | 0.0267 | | 768.4347 |

3.7 Asphalt paving of maintenance roads - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.7514 | 8.1986 | 6.0182 | 0.0120 | | 0.3791 | 0.3791 | | 0.3488 | 0.3488 | | 1,163.2085 | 1,163.2085 | 0.3762 | | 1,172.6136 |
| Paving | 0.5974 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.3487 | 8.1986 | 6.0182 | 0.0120 | | 0.3791 | 0.3791 | | 0.3488 | 0.3488 | | 1,163.2085 | 1,163.2085 | 0.3762 | | 1,172.6136 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.7 Asphalt paving of maintenance roads - 2020

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |
| Total | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |

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 | 0.7514 | 8.1986 | 6.0182 | 0.0120 | | 0.3791 | 0.3791 | | 0.3488 | 0.3488 | 0.0000 | 1,163.2085 | 1,163.2085 | 0.3762 | | 1,172.6136 |
| Paving | 0.5974 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.3487 | 8.1986 | 6.0182 | 0.0120 | | 0.3791 | 0.3791 | | 0.3488 | 0.3488 | 0.0000 | 1,163.2085 | 1,163.2085 | 0.3762 | | 1,172.6136 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.7 Asphalt paving of maintenance roads - 2020

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |
| Total | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |

3.8 Landscaping - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.1239 | 11.6569 | 6.5183 | 0.0111 | | 0.6159 | 0.6159 | | 0.5666 | 0.5666 | | 1,071.6596 | 1,071.6596 | 0.3466 | | 1,080.3246 |
| Total | 1.1239 | 11.6569 | 6.5183 | 0.0111 | | 0.6159 | 0.6159 | | 0.5666 | 0.5666 | | 1,071.6596 | 1,071.6596 | 0.3466 | | 1,080.3246 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.8 Landscaping - 2020

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1537 | 0.0968 | 1.3093 | 4.3700e-003 | 0.8358 | 2.9600e-003 | 0.8388 | 0.2140 | 2.7200e-003 | 0.2167 | | 436.0174 | 436.0174 | 9.9400e-003 | | 436.2659 |
| Total | 0.1537 | 0.0968 | 1.3093 | 4.3700e-003 | 0.8358 | 2.9600e-003 | 0.8388 | 0.2140 | 2.7200e-003 | 0.2167 | | 436.0174 | 436.0174 | 9.9400e-003 | | 436.2659 |

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 | 1.1239 | 11.6569 | 6.5183 | 0.0111 | | 0.6159 | 0.6159 | | 0.5666 | 0.5666 | 0.0000 | 1,071.6596 | 1,071.6596 | 0.3466 | | 1,080.3246 |
| Total | 1.1239 | 11.6569 | 6.5183 | 0.0111 | | 0.6159 | 0.6159 | | 0.5666 | 0.5666 | 0.0000 | 1,071.6596 | 1,071.6596 | 0.3466 | | 1,080.3246 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.8 Landscaping - 2020

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1537 | 0.0968 | 1.3093 | 4.3700e-003 | 0.8358 | 2.9600e-003 | 0.8388 | 0.2140 | 2.7200e-003 | 0.2167 | | 436.0174 | 436.0174 | 9.9400e-003 | | 436.2659 |
| Total | 0.1537 | 0.0968 | 1.3093 | 4.3700e-003 | 0.8358 | 2.9600e-003 | 0.8388 | 0.2140 | 2.7200e-003 | 0.2167 | | 436.0174 | 436.0174 | 9.9400e-003 | | 436.2659 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

OCPW EGGW Channel Improvement Project - Orange County, Summer

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|---------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.0100 | 0.0406 | 0.1333 | 4.8000e-004 | 0.0410 | 4.7000e-004 | 0.0415 | 0.0110 | 4.4000e-004 | 0.0114 | | 48.5371 | 48.5371 | 2.0300e-003 | | 48.5879 |
| Unmitigated | 0.0100 | 0.0406 | 0.1333 | 4.8000e-004 | 0.0410 | 4.7000e-004 | 0.0415 | 0.0110 | 4.4000e-004 | 0.0114 | | 48.5371 | 48.5371 | 2.0300e-003 | | 48.5879 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|-------------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| User Defined Industrial | 0.00 | 0.00 | 0.00 | | |
| General Office Building | 6.00 | 0.00 | 0.00 | 13,806 | 13,806 |
| Total | 6.00 | 0.00 | 0.00 | 13,806 | 13,806 |

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 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| User Defined Industrial | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| General Office Building | 16.60 | 8.40 | 6.90 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |

4.4 Fleet Mix

OCPW EGGW Channel Improvement Project - Orange County, Summer

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |
| User Defined Industrial | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |
| General Office Building | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| NaturalGas Unmitigated | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|--------------------|---------------|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 25.0411 | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |

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 Office Building | 0.0250411 | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |

6.0 Area Detail

6.1 Mitigation Measures Area

OCPW EGGW Channel Improvement Project - Orange County, Summer

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|-----|-------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Unmitigated | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.1020 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.7000e-004 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Total | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

6.2 Area by SubCategory

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.1020 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.7000e-004 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Total | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

OCPW EGGW Channel Improvement Project - Orange County, Summer

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

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|-------------------------|-------|----------|-------------|--------------------|------------|
| Other Asphalt Surfaces | 3.42 | Acre | 3.42 | 148,975.20 | 0 |
| General Office Building | 1.00 | 1000sqft | 0.02 | 1,000.00 | 0 |
| City Park | 13.11 | Acre | 13.11 | 571,071.60 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 30 |
| Climate Zone | 8 | | | Operational Year | 2021 |
| Utility Company | Southern California Edison | | | | |
| CO2 Intensity (lb/MWhr) | 702.44 | CH4 Intensity (lb/MWhr) | 0.029 | N2O Intensity (lb/MWhr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Start of construction assumed to be late 2018. In the event that construction occurs later, emissions would be lower due to the retirement of older, higher-emitting pieces of equipment.

Land Use - Other asphalt surfaces land use type used to represent 3.42 acres of maintenance roads on top of soil cement columns, city park land use type used to represent sheet piling/soil cement column installation (13.11-acre site); two office buildings (approximately 500 sf each) are assumed and operational emissions will be added to the construction emissions.

Construction Phase - Phases and durations provided by project manager; phase type has been approximated to capture the types of activities that would be performed under during each phase. Approximately one-month overlaps would occur between the first through third phases.

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors for the crane is default, and horsepower for the piling equipment power units (generators) was provided by OCPW

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default for dozers and backhoe; horsepower for drill rigs, cement mixers, and pumps were provided by OCPW.

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list and horsepower provided by OCPW; load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Grading - Approximately 104,000 cy of soil cement would be used to do the columns; excavation within the channel would require approximately 142,000 cy of export

Trips and VMT - Worker trip estimates provided by OCPW. Deliveries of cement and piles assumed to be equally divided for the pile installation phase. Export to occur during grading/excavation in channel phase. All trip lengths are defaults.

Vehicle Trips - County inspector trips captured in the operational mobile emissions; contractor trips are captured in the construction mobile emissions. After construction, maintenance would be minimal, and would not increase relative to existing conditions.

Area Coating - No architectural coatings would be applied.

Energy Use -

Construction Off-road Equipment Mitigation - Rule 403 and Tier 4 Equipment

| Table Name | Column Name | Default Value | New Value |
|-------------------------|------------------------------|---------------|-----------|
| tblAreaCoating | Area_Nonresidential_Exterior | 286036 | 0 |
| tblAreaCoating | Area_Nonresidential_Interior | 858108 | 0 |
| tblAreaCoating | Area_Parking | 8939 | 0 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |

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| | | | |
|-------------------------|----------------------------|-----------|--------------|
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 6.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 10.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstructionPhase | NumDays | 30.00 | 200.00 |
| tblConstructionPhase | NumDays | 30.00 | 100.00 |
| tblConstructionPhase | NumDays | 20.00 | 15.00 |
| tblConstructionPhase | NumDays | 30.00 | 45.00 |
| tblConstructionPhase | NumDays | 10.00 | 45.00 |
| tblConstructionPhase | NumDays | 10.00 | 45.00 |
| tblConstructionPhase | NumDays | 300.00 | 150.00 |

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| | | | |
|----------------------|------------------|------------|------------|
| tblConstructionPhase | PhaseEndDate | 12/7/2018 | 2/4/2020 |
| tblConstructionPhase | PhaseEndDate | 1/18/2019 | 6/23/2020 |
| tblConstructionPhase | PhaseEndDate | 4/24/2020 | 9/15/2020 |
| tblConstructionPhase | PhaseEndDate | 3/1/2019 | 8/25/2020 |
| tblConstructionPhase | PhaseEndDate | 10/12/2018 | 11/30/2018 |
| tblConstructionPhase | PhaseEndDate | 5/22/2020 | 11/17/2020 |
| tblConstructionPhase | PhaseEndDate | 10/26/2018 | 5/29/2019 |
| tblConstructionPhase | PhaseStartDate | 10/27/2018 | 5/1/2019 |
| tblConstructionPhase | PhaseStartDate | 12/8/2018 | 2/5/2020 |
| tblConstructionPhase | PhaseStartDate | 3/2/2019 | 8/26/2020 |
| tblConstructionPhase | PhaseStartDate | 1/19/2019 | 6/24/2020 |
| tblConstructionPhase | PhaseStartDate | 4/25/2020 | 9/16/2020 |
| tblConstructionPhase | PhaseStartDate | 10/13/2018 | 11/1/2018 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | MaterialExported | 0.00 | 141,694.00 |
| tblGrading | MaterialImported | 0.00 | 104,271.00 |
| tblOffRoadEquipment | HorsePower | 158.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 247.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 221.00 | 450.00 |
| tblOffRoadEquipment | HorsePower | 9.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 97.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 350.00 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |

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| | | | |
|---------------------|----------------------------|------|-------------------------------------|
| tblOffRoadEquipment | LoadFactor | 0.40 | 0.40 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Bore/Drill Rigs |
| tblOffRoadEquipment | OffRoadEquipmentType | | Cement and Mortar Mixers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | PhaseName | | Asphalt paving of maintenance roads |
| tblOffRoadEquipment | PhaseName | | Landscaping |

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| | | | |
|---------------------|-------------------|--------|---|
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | PhaseName | | Landscaping |
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | UsageHours | 8.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 4.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 4.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 60.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 12.00 |
| tblTripsAndVMT | VendorTripNumber | 118.00 | 48.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 303.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 5.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblVehicleTrips | ST_TR | 2.46 | 0.00 |
| tblVehicleTrips | SU_TR | 1.05 | 0.00 |
| tblVehicleTrips | WD_TR | 11.03 | 6.00 |

2.0 Emissions Summary

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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 | | | | | |
| 2018 | 0.1395 | 1.5638 | 0.7400 | 2.1900e-003 | 0.2889 | 0.0654 | 0.3542 | 0.1539 | 0.0613 | 0.2152 | 0.0000 | 214.1903 | 214.1903 | 0.0289 | 0.0000 | 214.9131 |
| 2019 | 0.4252 | 4.5354 | 2.4361 | 0.0113 | 0.1290 | 0.1388 | 0.2678 | 0.0526 | 0.1343 | 0.1868 | 0.0000 | 1,103.0380 | 1,103.0380 | 0.1356 | 0.0000 | 1,106.4286 |
| 2020 | 0.1711 | 1.5869 | 1.2350 | 2.9000e-003 | 0.9154 | 0.0693 | 0.9847 | 0.4741 | 0.0642 | 0.5384 | 0.0000 | 265.0317 | 265.0317 | 0.0573 | 0.0000 | 266.4631 |
| Maximum | 0.4252 | 4.5354 | 2.4361 | 0.0113 | 0.9154 | 0.1388 | 0.9847 | 0.4741 | 0.1343 | 0.5384 | 0.0000 | 1,103.0380 | 1,103.0380 | 0.1356 | 0.0000 | 1,106.4286 |

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 | | | | | |
| 2018 | 0.0308 | 0.2544 | 0.9479 | 2.1900e-003 | 0.1236 | 4.0800e-003 | 0.1276 | 0.0630 | 4.0300e-003 | 0.0671 | 0.0000 | 214.1901 | 214.1901 | 0.0289 | 0.0000 | 214.9129 |
| 2019 | 0.1496 | 0.8471 | 4.7742 | 0.0113 | 0.0849 | 0.0188 | 0.1038 | 0.0299 | 0.0187 | 0.0487 | 0.0000 | 1,103.0368 | 1,103.0368 | 0.1356 | 0.0000 | 1,106.4274 |
| 2020 | 0.0498 | 0.1503 | 1.3297 | 2.9000e-003 | 0.4040 | 4.3500e-003 | 0.4083 | 0.1970 | 4.3300e-003 | 0.2013 | 0.0000 | 265.0315 | 265.0315 | 0.0573 | 0.0000 | 266.4628 |
| Maximum | 0.1496 | 0.8471 | 4.7742 | 0.0113 | 0.4040 | 0.0188 | 0.4083 | 0.1970 | 0.0187 | 0.2013 | 0.0000 | 1,103.0368 | 1,103.0368 | 0.1356 | 0.0000 | 1,106.4274 |

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| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|-------------------|-------|-------|--------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 68.73 | 83.71 | -59.87 | 0.00 | 54.06 | 90.03 | 60.18 | 57.41 | 89.57 | 66.29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|------------|--|--|
| 1 | 10-1-2018 | 12-31-2018 | 1.6822 | 0.2829 |
| 2 | 1-1-2019 | 3-31-2019 | 1.0577 | 0.2923 |
| 3 | 4-1-2019 | 6-30-2019 | 1.4881 | 0.3166 |
| 4 | 7-1-2019 | 9-30-2019 | 1.1995 | 0.1894 |
| 5 | 10-1-2019 | 12-31-2019 | 1.2003 | 0.1901 |
| 6 | 1-1-2020 | 3-31-2020 | 0.4603 | 0.0790 |
| 7 | 4-1-2020 | 6-30-2020 | 0.1685 | 0.0184 |
| 8 | 7-1-2020 | 9-30-2020 | 0.9047 | 0.0850 |
| | | Highest | 1.6822 | 0.3166 |

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2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|---------------|--------------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0186 | 0.0000 | 2.2000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4000e-004 | 4.4000e-004 | 0.0000 | 0.0000 | 4.6000e-004 |
| Energy | 5.0000e-005 | 4.5000e-004 | 3.8000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 4.9453 | 4.9453 | 1.9000e-004 | 5.0000e-005 | 4.9641 |
| Mobile | 1.2500e-003 | 5.5300e-003 | 0.0168 | 6.0000e-005 | 5.2400e-003 | 6.0000e-005 | 5.3000e-003 | 1.4000e-003 | 6.0000e-005 | 1.4600e-003 | 0.0000 | 5.5354 | 5.5354 | 2.4000e-004 | 0.0000 | 5.5414 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.1888 | 0.0000 | 0.1888 | 0.0112 | 0.0000 | 0.4677 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0564 | 1.1230 | 1.1794 | 5.8400e-003 | 1.5000e-004 | 1.3689 |
| Total | 0.0199 | 5.9800e-003 | 0.0174 | 6.0000e-005 | 5.2400e-003 | 9.0000e-005 | 5.3300e-003 | 1.4000e-003 | 9.0000e-005 | 1.4900e-003 | 0.2452 | 11.6041 | 11.8493 | 0.0174 | 2.0000e-004 | 12.3426 |

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2.2 Overall Operational

Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|---------------|--------------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0186 | 0.0000 | 2.2000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4000e-004 | 4.4000e-004 | 0.0000 | 0.0000 | 4.6000e-004 |
| Energy | 5.0000e-005 | 4.5000e-004 | 3.8000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 4.9453 | 4.9453 | 1.9000e-004 | 5.0000e-005 | 4.9641 |
| Mobile | 1.2500e-003 | 5.5300e-003 | 0.0168 | 6.0000e-005 | 5.2400e-003 | 6.0000e-005 | 5.3000e-003 | 1.4000e-003 | 6.0000e-005 | 1.4600e-003 | 0.0000 | 5.5354 | 5.5354 | 2.4000e-004 | 0.0000 | 5.5414 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.1888 | 0.0000 | 0.1888 | 0.0112 | 0.0000 | 0.4677 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0564 | 1.1230 | 1.1794 | 5.8400e-003 | 1.5000e-004 | 1.3689 |
| Total | 0.0199 | 5.9800e-003 | 0.0174 | 6.0000e-005 | 5.2400e-003 | 9.0000e-005 | 5.3300e-003 | 1.4000e-003 | 9.0000e-005 | 1.4900e-003 | 0.2452 | 11.6041 | 11.8493 | 0.0174 | 2.0000e-004 | 12.3426 |

| | ROG | NOx | CO | SO2 | 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

OCPW EGGW Channel Improvement Project - Orange County, Annual

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|---|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Site preparation of levees, infiltration cistern | Site Preparation | 10/1/2018 | 11/30/2018 | 5 | 45 | |
| 2 | Sheet pile installation | Building Construction | 11/1/2018 | 5/29/2019 | 5 | 150 | |
| 3 | Soil cement mixing, levee work, maintenance road prep | Grading | 5/1/2019 | 2/4/2020 | 5 | 200 | |
| 4 | Pile caps and retaining walls | Grading | 2/5/2020 | 6/23/2020 | 5 | 100 | |
| 5 | Grading/excavation inside channel | Grading | 6/24/2020 | 8/25/2020 | 5 | 45 | |
| 6 | Asphalt paving of maintenance roads | Paving | 8/26/2020 | 9/15/2020 | 5 | 15 | |
| 7 | Landscaping | Site Preparation | 9/16/2020 | 11/17/2020 | 5 | 45 | |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.42

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

OffRoad Equipment

OCPW EGGW Channel Improvement Project - Orange County, Annual

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---------------------------|--------|-------------|-------------|-------------|
| Soil cement mixing, levee work, maintenance road prep | Tractors/Loaders/Backhoes | 1 | 1.00 | 97 | 0.37 |
| Grading/excavation inside channel | Excavators | 1 | 4.00 | 350 | 0.38 |
| Grading/excavation inside channel | Rubber Tired Dozers | 2 | 8.00 | 350 | 0.40 |
| Asphalt paving of maintenance roads | Rubber Tired Loaders | 1 | 6.00 | 203 | 0.36 |
| Landscaping | Rubber Tired Dozers | 1 | 6.00 | 247 | 0.40 |
| Sheet pile installation | Cranes | 1 | 8.00 | 231 | 0.29 |
| Soil cement mixing, levee work, maintenance road prep | Bore/Drill Rigs | 2 | 8.00 | 450 | 0.50 |
| Soil cement mixing, levee work, maintenance road prep | Cement and Mortar Mixers | 2 | 8.00 | 350 | 0.56 |
| Asphalt paving of maintenance roads | Pavers | 1 | 8.00 | 130 | 0.42 |
| Landscaping | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Asphalt paving of maintenance roads | Rollers | 1 | 8.00 | 80 | 0.38 |
| Site preparation of levees, infiltration cistern | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site preparation of levees, infiltration cistern | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Soil cement mixing, levee work, maintenance road prep | Pumps | 2 | 8.00 | 350 | 0.74 |
| Grading/excavation inside channel | Tractors/Loaders/Backhoes | 1 | 8.00 | 350 | 0.37 |
| Soil cement mixing, levee work, maintenance road prep | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Pile caps and retaining walls | Tractors/Loaders/Backhoes | 2 | 4.00 | 97 | 0.37 |
| Sheet pile installation | Generator Sets | 2 | 8.00 | 350 | 0.74 |

Trips and VMT

OCPW EGGW Channel Improvement Project - Orange County, Annual

| 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 |
|--|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Landscaping | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site preparation of levees, infiltration ditches | 6 | 20.00 | 12.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Landscaping | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 60.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Sheet pile installation | 3 | 20.00 | 48.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Soil cement mixing, levee work, maintenance | 8 | 30.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Pile caps and retaining walls | 2 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Asphalt paving of maintenance roads | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.2 Site preparation of levees, infiltration cistern - 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 | | | | | 0.2710 | 0.0000 | 0.2710 | 0.1490 | 0.0000 | 0.1490 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0764 | 0.8019 | 0.4073 | 6.6000e-004 | | 0.0442 | 0.0442 | | 0.0407 | 0.0407 | 0.0000 | 60.6522 | 60.6522 | 0.0189 | 0.0000 | 61.1243 |
| Total | 0.0764 | 0.8019 | 0.4073 | 6.6000e-004 | 0.2710 | 0.0442 | 0.3152 | 0.1490 | 0.0407 | 0.1897 | 0.0000 | 60.6522 | 60.6522 | 0.0189 | 0.0000 | 61.1243 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1100e-003 | 0.0329 | 9.0700e-003 | 7.0000e-005 | 1.7000e-003 | 2.4000e-004 | 1.9400e-003 | 4.9000e-004 | 2.3000e-004 | 7.2000e-004 | 0.0000 | 6.6514 | 6.6514 | 6.0000e-004 | 0.0000 | 6.6663 |
| Worker | 2.0400e-003 | 1.5400e-003 | 0.0168 | 5.0000e-005 | 4.9400e-003 | 3.0000e-005 | 4.9700e-003 | 1.3100e-003 | 3.0000e-005 | 1.3400e-003 | 0.0000 | 4.5374 | 4.5374 | 1.2000e-004 | 0.0000 | 4.5404 |
| Total | 3.1500e-003 | 0.0344 | 0.0259 | 1.2000e-004 | 6.6400e-003 | 2.7000e-004 | 6.9100e-003 | 1.8000e-003 | 2.6000e-004 | 2.0600e-003 | 0.0000 | 11.1888 | 11.1888 | 7.2000e-004 | 0.0000 | 11.2067 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.2 Site preparation of levees, infiltration cistern - 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 | | | | | 0.1057 | 0.0000 | 0.1057 | 0.0581 | 0.0000 | 0.0581 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 8.1200e-003 | 0.0352 | 0.3833 | 6.6000e-004 | | 1.0800e-003 | 1.0800e-003 | | 1.0800e-003 | 1.0800e-003 | 0.0000 | 60.6522 | 60.6522 | 0.0189 | 0.0000 | 61.1242 |
| Total | 8.1200e-003 | 0.0352 | 0.3833 | 6.6000e-004 | 0.1057 | 1.0800e-003 | 0.1068 | 0.0581 | 1.0800e-003 | 0.0592 | 0.0000 | 60.6522 | 60.6522 | 0.0189 | 0.0000 | 61.1242 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1100e-003 | 0.0329 | 9.0700e-003 | 7.0000e-005 | 1.7000e-003 | 2.4000e-004 | 1.9400e-003 | 4.9000e-004 | 2.3000e-004 | 7.2000e-004 | 0.0000 | 6.6514 | 6.6514 | 6.0000e-004 | 0.0000 | 6.6663 |
| Worker | 2.0400e-003 | 1.5400e-003 | 0.0168 | 5.0000e-005 | 4.9400e-003 | 3.0000e-005 | 4.9700e-003 | 1.3100e-003 | 3.0000e-005 | 1.3400e-003 | 0.0000 | 4.5374 | 4.5374 | 1.2000e-004 | 0.0000 | 4.5404 |
| Total | 3.1500e-003 | 0.0344 | 0.0259 | 1.2000e-004 | 6.6400e-003 | 2.7000e-004 | 6.9100e-003 | 1.8000e-003 | 2.6000e-004 | 2.0600e-003 | 0.0000 | 11.1888 | 11.1888 | 7.2000e-004 | 0.0000 | 11.2067 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.3 Sheet pile 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 | 0.0537 | 0.6004 | 0.2561 | 1.1100e-003 | | 0.0199 | 0.0199 | | 0.0194 | 0.0194 | 0.0000 | 112.5906 | 112.5906 | 6.9100e-003 | 0.0000 | 112.7634 |
| Total | 0.0537 | 0.6004 | 0.2561 | 1.1100e-003 | | 0.0199 | 0.0199 | | 0.0194 | 0.0194 | 0.0000 | 112.5906 | 112.5906 | 6.9100e-003 | 0.0000 | 112.7634 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 4.2600e-003 | 0.1257 | 0.0347 | 2.6000e-004 | 6.5000e-003 | 9.2000e-004 | 7.4200e-003 | 1.8700e-003 | 8.8000e-004 | 2.7500e-003 | 0.0000 | 25.4230 | 25.4230 | 2.2800e-003 | 0.0000 | 25.4801 |
| Worker | 1.9500e-003 | 1.4800e-003 | 0.0161 | 5.0000e-005 | 4.7200e-003 | 3.0000e-005 | 4.7500e-003 | 1.2500e-003 | 3.0000e-005 | 1.2800e-003 | 0.0000 | 4.3358 | 4.3358 | 1.2000e-004 | 0.0000 | 4.3386 |
| Total | 6.2100e-003 | 0.1271 | 0.0507 | 3.1000e-004 | 0.0112 | 9.5000e-004 | 0.0122 | 3.1200e-003 | 9.1000e-004 | 4.0300e-003 | 0.0000 | 29.7587 | 29.7587 | 2.4000e-003 | 0.0000 | 29.8187 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.3 Sheet pile 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 | 0.0133 | 0.0577 | 0.4880 | 1.1100e-003 | | 1.7700e-003 | 1.7700e-003 | | 1.7700e-003 | 1.7700e-003 | 0.0000 | 112.5905 | 112.5905 | 6.9100e-003 | 0.0000 | 112.7632 |
| Total | 0.0133 | 0.0577 | 0.4880 | 1.1100e-003 | | 1.7700e-003 | 1.7700e-003 | | 1.7700e-003 | 1.7700e-003 | 0.0000 | 112.5905 | 112.5905 | 6.9100e-003 | 0.0000 | 112.7632 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 4.2600e-003 | 0.1257 | 0.0347 | 2.6000e-004 | 6.5000e-003 | 9.2000e-004 | 7.4200e-003 | 1.8700e-003 | 8.8000e-004 | 2.7500e-003 | 0.0000 | 25.4230 | 25.4230 | 2.2800e-003 | 0.0000 | 25.4801 |
| Worker | 1.9500e-003 | 1.4800e-003 | 0.0161 | 5.0000e-005 | 4.7200e-003 | 3.0000e-005 | 4.7500e-003 | 1.2500e-003 | 3.0000e-005 | 1.2800e-003 | 0.0000 | 4.3358 | 4.3358 | 1.2000e-004 | 0.0000 | 4.3386 |
| Total | 6.2100e-003 | 0.1271 | 0.0507 | 3.1000e-004 | 0.0112 | 9.5000e-004 | 0.0122 | 3.1200e-003 | 9.1000e-004 | 4.0300e-003 | 0.0000 | 29.7587 | 29.7587 | 2.4000e-003 | 0.0000 | 29.8187 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.3 Sheet pile installation - 2019

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 | 0.1242 | 1.3263 | 0.6188 | 2.7500e-003 | | 0.0439 | 0.0439 | | 0.0428 | 0.0428 | 0.0000 | 279.7117 | 279.7117 | 0.0168 | 0.0000 | 280.1305 |
| Total | 0.1242 | 1.3263 | 0.6188 | 2.7500e-003 | | 0.0439 | 0.0439 | | 0.0428 | 0.0428 | 0.0000 | 279.7117 | 279.7117 | 0.0168 | 0.0000 | 280.1305 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 9.8100e-003 | 0.2972 | 0.0809 | 6.4000e-004 | 0.0162 | 1.9800e-003 | 0.0182 | 4.6600e-003 | 1.9000e-003 | 6.5600e-003 | 0.0000 | 62.9451 | 62.9451 | 5.4900e-003 | 0.0000 | 63.0825 |
| Worker | 4.4700e-003 | 3.2600e-003 | 0.0362 | 1.2000e-004 | 0.0118 | 8.0000e-005 | 0.0118 | 3.1200e-003 | 7.0000e-005 | 3.1900e-003 | 0.0000 | 10.5033 | 10.5033 | 2.6000e-004 | 0.0000 | 10.5098 |
| Total | 0.0143 | 0.3005 | 0.1171 | 7.6000e-004 | 0.0279 | 2.0600e-003 | 0.0300 | 7.7800e-003 | 1.9700e-003 | 9.7500e-003 | 0.0000 | 73.4484 | 73.4484 | 5.7500e-003 | 0.0000 | 73.5923 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.3 Sheet pile installation - 2019

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 | 0.0331 | 0.1435 | 1.2144 | 2.7500e-003 | | 4.4200e-003 | 4.4200e-003 | | 4.4200e-003 | 4.4200e-003 | 0.0000 | 279.7113 | 279.7113 | 0.0168 | 0.0000 | 280.1302 |
| Total | 0.0331 | 0.1435 | 1.2144 | 2.7500e-003 | | 4.4200e-003 | 4.4200e-003 | | 4.4200e-003 | 4.4200e-003 | 0.0000 | 279.7113 | 279.7113 | 0.0168 | 0.0000 | 280.1302 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 9.8100e-003 | 0.2972 | 0.0809 | 6.4000e-004 | 0.0162 | 1.9800e-003 | 0.0182 | 4.6600e-003 | 1.9000e-003 | 6.5600e-003 | 0.0000 | 62.9451 | 62.9451 | 5.4900e-003 | 0.0000 | 63.0825 |
| Worker | 4.4700e-003 | 3.2600e-003 | 0.0362 | 1.2000e-004 | 0.0118 | 8.0000e-005 | 0.0118 | 3.1200e-003 | 7.0000e-005 | 3.1900e-003 | 0.0000 | 10.5033 | 10.5033 | 2.6000e-004 | 0.0000 | 10.5098 |
| Total | 0.0143 | 0.3005 | 0.1171 | 7.6000e-004 | 0.0279 | 2.0600e-003 | 0.0300 | 7.7800e-003 | 1.9700e-003 | 9.7500e-003 | 0.0000 | 73.4484 | 73.4484 | 5.7500e-003 | 0.0000 | 73.5923 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.4 Soil cement mixing, levee work, maintenance road prep - 2019

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 | | | | | 0.0723 | 0.0000 | 0.0723 | 0.0372 | 0.0000 | 0.0372 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.2757 | 2.9007 | 1.6114 | 7.4700e-003 | | 0.0926 | 0.0926 | | 0.0893 | 0.0893 | 0.0000 | 724.1104 | 724.1104 | 0.1125 | 0.0000 | 726.9225 |
| Total | 0.2757 | 2.9007 | 1.6114 | 7.4700e-003 | 0.0723 | 0.0926 | 0.1649 | 0.0372 | 0.0893 | 0.1264 | 0.0000 | 724.1104 | 724.1104 | 0.1125 | 0.0000 | 726.9225 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0110 | 8.0000e-003 | 0.0888 | 2.8000e-004 | 0.0288 | 2.0000e-004 | 0.0290 | 7.6500e-003 | 1.8000e-004 | 7.8300e-003 | 0.0000 | 25.7675 | 25.7675 | 6.3000e-004 | 0.0000 | 25.7834 |
| Total | 0.0110 | 8.0000e-003 | 0.0888 | 2.8000e-004 | 0.0288 | 2.0000e-004 | 0.0290 | 7.6500e-003 | 1.8000e-004 | 7.8300e-003 | 0.0000 | 25.7675 | 25.7675 | 6.3000e-004 | 0.0000 | 25.7834 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.4 Soil cement mixing, levee work, maintenance road prep - 2019

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 | | | | | 0.0282 | 0.0000 | 0.0282 | 0.0145 | 0.0000 | 0.0145 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0912 | 0.3952 | 3.3540 | 7.4700e-003 | | 0.0122 | 0.0122 | | 0.0122 | 0.0122 | 0.0000 | 724.1095 | 724.1095 | 0.1125 | 0.0000 | 726.9217 |
| Total | 0.0912 | 0.3952 | 3.3540 | 7.4700e-003 | 0.0282 | 0.0122 | 0.0404 | 0.0145 | 0.0122 | 0.0267 | 0.0000 | 724.1095 | 724.1095 | 0.1125 | 0.0000 | 726.9217 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0110 | 8.0000e-003 | 0.0888 | 2.8000e-004 | 0.0288 | 2.0000e-004 | 0.0290 | 7.6500e-003 | 1.8000e-004 | 7.8300e-003 | 0.0000 | 25.7675 | 25.7675 | 6.3000e-004 | 0.0000 | 25.7834 |
| Total | 0.0110 | 8.0000e-003 | 0.0888 | 2.8000e-004 | 0.0288 | 2.0000e-004 | 0.0290 | 7.6500e-003 | 1.8000e-004 | 7.8300e-003 | 0.0000 | 25.7675 | 25.7675 | 6.3000e-004 | 0.0000 | 25.7834 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.4 Soil cement mixing, levee work, maintenance road prep - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0158 | 0.0000 | 0.0158 | 6.1200e-003 | 0.0000 | 6.1200e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0376 | 0.3711 | 0.2266 | 1.0700e-003 | | 0.0120 | 0.0120 | | 0.0116 | 0.0116 | 0.0000 | 102.4889 | 102.4889 | 0.0160 | 0.0000 | 102.8882 |
| Total | 0.0376 | 0.3711 | 0.2266 | 1.0700e-003 | 0.0158 | 0.0120 | 0.0279 | 6.1200e-003 | 0.0116 | 0.0177 | 0.0000 | 102.4889 | 102.4889 | 0.0160 | 0.0000 | 102.8882 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4600e-003 | 1.0200e-003 | 0.0116 | 4.0000e-005 | 4.1200e-003 | 3.0000e-005 | 4.1400e-003 | 1.0900e-003 | 3.0000e-005 | 1.1200e-003 | 0.0000 | 3.5631 | 3.5631 | 8.0000e-005 | 0.0000 | 3.5651 |
| Total | 1.4600e-003 | 1.0200e-003 | 0.0116 | 4.0000e-005 | 4.1200e-003 | 3.0000e-005 | 4.1400e-003 | 1.0900e-003 | 3.0000e-005 | 1.1200e-003 | 0.0000 | 3.5631 | 3.5631 | 8.0000e-005 | 0.0000 | 3.5651 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.4 Soil cement mixing, levee work, maintenance road prep - 2020

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 | | | | | 6.1800e-003 | 0.0000 | 6.1800e-003 | 2.3900e-003 | 0.0000 | 2.3900e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0130 | 0.0565 | 0.4792 | 1.0700e-003 | | 1.7400e-003 | 1.7400e-003 | | 1.7400e-003 | 1.7400e-003 | 0.0000 | 102.4888 | 102.4888 | 0.0160 | 0.0000 | 102.8881 |
| Total | 0.0130 | 0.0565 | 0.4792 | 1.0700e-003 | 6.1800e-003 | 1.7400e-003 | 7.9200e-003 | 2.3900e-003 | 1.7400e-003 | 4.1300e-003 | 0.0000 | 102.4888 | 102.4888 | 0.0160 | 0.0000 | 102.8881 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4600e-003 | 1.0200e-003 | 0.0116 | 4.0000e-005 | 4.1200e-003 | 3.0000e-005 | 4.1400e-003 | 1.0900e-003 | 3.0000e-005 | 1.1200e-003 | 0.0000 | 3.5631 | 3.5631 | 8.0000e-005 | 0.0000 | 3.5651 |
| Total | 1.4600e-003 | 1.0200e-003 | 0.0116 | 4.0000e-005 | 4.1200e-003 | 3.0000e-005 | 4.1400e-003 | 1.0900e-003 | 3.0000e-005 | 1.1200e-003 | 0.0000 | 3.5631 | 3.5631 | 8.0000e-005 | 0.0000 | 3.5651 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.5 Pile caps and retaining walls - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0105 | 0.1053 | 0.1140 | 1.6000e-004 | | 6.6600e-003 | 6.6600e-003 | | 6.1200e-003 | 6.1200e-003 | 0.0000 | 13.6426 | 13.6426 | 4.4100e-003 | 0.0000 | 13.7529 |
| Total | 0.0105 | 0.1053 | 0.1140 | 1.6000e-004 | | 6.6600e-003 | 6.6600e-003 | | 6.1200e-003 | 6.1200e-003 | 0.0000 | 13.6426 | 13.6426 | 4.4100e-003 | 0.0000 | 13.7529 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.9000e-003 | 2.7300e-003 | 0.0310 | 1.1000e-004 | 0.0110 | 7.0000e-005 | 0.0111 | 2.9200e-003 | 7.0000e-005 | 2.9800e-003 | 0.0000 | 9.5016 | 9.5016 | 2.2000e-004 | 0.0000 | 9.5070 |
| Total | 3.9000e-003 | 2.7300e-003 | 0.0310 | 1.1000e-004 | 0.0110 | 7.0000e-005 | 0.0111 | 2.9200e-003 | 7.0000e-005 | 2.9800e-003 | 0.0000 | 9.5016 | 9.5016 | 2.2000e-004 | 0.0000 | 9.5070 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.5 Pile caps and retaining walls - 2020

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 | 1.9000e-003 | 8.2300e-003 | 0.1171 | 1.6000e-004 | | 2.5000e-004 | 2.5000e-004 | | 2.5000e-004 | 2.5000e-004 | 0.0000 | 13.6426 | 13.6426 | 4.4100e-003 | 0.0000 | 13.7529 |
| Total | 1.9000e-003 | 8.2300e-003 | 0.1171 | 1.6000e-004 | | 2.5000e-004 | 2.5000e-004 | | 2.5000e-004 | 2.5000e-004 | 0.0000 | 13.6426 | 13.6426 | 4.4100e-003 | 0.0000 | 13.7529 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.9000e-003 | 2.7300e-003 | 0.0310 | 1.1000e-004 | 0.0110 | 7.0000e-005 | 0.0111 | 2.9200e-003 | 7.0000e-005 | 2.9800e-003 | 0.0000 | 9.5016 | 9.5016 | 2.2000e-004 | 0.0000 | 9.5070 |
| Total | 3.9000e-003 | 2.7300e-003 | 0.0310 | 1.1000e-004 | 0.0110 | 7.0000e-005 | 0.0111 | 2.9200e-003 | 7.0000e-005 | 2.9800e-003 | 0.0000 | 9.5016 | 9.5016 | 2.2000e-004 | 0.0000 | 9.5070 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.6 Grading/excavation inside channel - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.8226 | 0.0000 | 0.8226 | 0.4483 | 0.0000 | 0.4483 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0728 | 0.7680 | 0.5834 | 9.2000e-004 | | 0.0336 | 0.0336 | | 0.0309 | 0.0309 | 0.0000 | 80.9360 | 80.9360 | 0.0262 | 0.0000 | 81.5904 |
| Total | 0.0728 | 0.7680 | 0.5834 | 9.2000e-004 | 0.8226 | 0.0336 | 0.8562 | 0.4483 | 0.0309 | 0.4792 | 0.0000 | 80.9360 | 80.9360 | 0.0262 | 0.0000 | 81.5904 |

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 | 2.3000e-004 | 8.5100e-003 | 2.1300e-003 | 2.0000e-005 | 1.2900e-003 | 3.0000e-005 | 1.3200e-003 | 3.3000e-004 | 3.0000e-005 | 3.6000e-004 | 0.0000 | 2.3069 | 2.3069 | 2.4000e-004 | 0.0000 | 2.3130 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 5.2600e-003 | 3.6900e-003 | 0.0419 | 1.4000e-004 | 0.0405 | 1.0000e-004 | 0.0406 | 0.0102 | 9.0000e-005 | 0.0103 | 0.0000 | 12.8272 | 12.8272 | 2.9000e-004 | 0.0000 | 12.8345 |
| Total | 5.4900e-003 | 0.0122 | 0.0440 | 1.6000e-004 | 0.0418 | 1.3000e-004 | 0.0419 | 0.0106 | 1.2000e-004 | 0.0107 | 0.0000 | 15.1341 | 15.1341 | 5.3000e-004 | 0.0000 | 15.1475 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.6 Grading/excavation inside channel - 2020

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 | | | | | 0.3208 | 0.0000 | 0.3208 | 0.1748 | 0.0000 | 0.1748 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0113 | 0.0488 | 0.4130 | 9.2000e-004 | | 1.5000e-003 | 1.5000e-003 | | 1.5000e-003 | 1.5000e-003 | 0.0000 | 80.9359 | 80.9359 | 0.0262 | 0.0000 | 81.5903 |
| Total | 0.0113 | 0.0488 | 0.4130 | 9.2000e-004 | 0.3208 | 1.5000e-003 | 0.3223 | 0.1748 | 1.5000e-003 | 0.1763 | 0.0000 | 80.9359 | 80.9359 | 0.0262 | 0.0000 | 81.5903 |

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 | 2.3000e-004 | 8.5100e-003 | 2.1300e-003 | 2.0000e-005 | 1.2900e-003 | 3.0000e-005 | 1.3200e-003 | 3.3000e-004 | 3.0000e-005 | 3.6000e-004 | 0.0000 | 2.3069 | 2.3069 | 2.4000e-004 | 0.0000 | 2.3130 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 5.2600e-003 | 3.6900e-003 | 0.0419 | 1.4000e-004 | 0.0405 | 1.0000e-004 | 0.0406 | 0.0102 | 9.0000e-005 | 0.0103 | 0.0000 | 12.8272 | 12.8272 | 2.9000e-004 | 0.0000 | 12.8345 |
| Total | 5.4900e-003 | 0.0122 | 0.0440 | 1.6000e-004 | 0.0418 | 1.3000e-004 | 0.0419 | 0.0106 | 1.2000e-004 | 0.0107 | 0.0000 | 15.1341 | 15.1341 | 5.3000e-004 | 0.0000 | 15.1475 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.7 Asphalt paving of maintenance roads - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 5.6400e-003 | 0.0615 | 0.0451 | 9.0000e-005 | | 2.8400e-003 | 2.8400e-003 | | 2.6200e-003 | 2.6200e-003 | 0.0000 | 7.9143 | 7.9143 | 2.5600e-003 | 0.0000 | 7.9783 |
| Paving | 4.4800e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 0.0101 | 0.0615 | 0.0451 | 9.0000e-005 | | 2.8400e-003 | 2.8400e-003 | | 2.6200e-003 | 2.6200e-003 | 0.0000 | 7.9143 | 7.9143 | 2.5600e-003 | 0.0000 | 7.9783 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 5.8000e-004 | 4.1000e-004 | 4.6500e-003 | 2.0000e-005 | 1.6500e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.4252 | 1.4252 | 3.0000e-005 | 0.0000 | 1.4261 |
| Total | 5.8000e-004 | 4.1000e-004 | 4.6500e-003 | 2.0000e-005 | 1.6500e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.4252 | 1.4252 | 3.0000e-005 | 0.0000 | 1.4261 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.7 Asphalt paving of maintenance roads - 2020

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 | 1.1100e-003 | 4.8100e-003 | 0.0576 | 9.0000e-005 | | 1.5000e-004 | 1.5000e-004 | | 1.5000e-004 | 1.5000e-004 | 0.0000 | 7.9143 | 7.9143 | 2.5600e-003 | 0.0000 | 7.9783 |
| Paving | 4.4800e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 5.5900e-003 | 4.8100e-003 | 0.0576 | 9.0000e-005 | | 1.5000e-004 | 1.5000e-004 | | 1.5000e-004 | 1.5000e-004 | 0.0000 | 7.9143 | 7.9143 | 2.5600e-003 | 0.0000 | 7.9783 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 5.8000e-004 | 4.1000e-004 | 4.6500e-003 | 2.0000e-005 | 1.6500e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.4252 | 1.4252 | 3.0000e-005 | 0.0000 | 1.4261 |
| Total | 5.8000e-004 | 4.1000e-004 | 4.6500e-003 | 2.0000e-005 | 1.6500e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.4252 | 1.4252 | 3.0000e-005 | 0.0000 | 1.4261 |

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3.8 Landscaping - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0253 | 0.2623 | 0.1467 | 2.5000e-004 | | 0.0139 | 0.0139 | | 0.0128 | 0.0128 | 0.0000 | 21.8744 | 21.8744 | 7.0700e-003 | 0.0000 | 22.0512 |
| Total | 0.0253 | 0.2623 | 0.1467 | 2.5000e-004 | | 0.0139 | 0.0139 | | 0.0128 | 0.0128 | 0.0000 | 21.8744 | 21.8744 | 7.0700e-003 | 0.0000 | 22.0512 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.5100e-003 | 2.4600e-003 | 0.0279 | 9.0000e-005 | 0.0185 | 7.0000e-005 | 0.0185 | 4.7300e-003 | 6.0000e-005 | 4.7900e-003 | 0.0000 | 8.5514 | 8.5514 | 2.0000e-004 | 0.0000 | 8.5563 |
| Total | 3.5100e-003 | 2.4600e-003 | 0.0279 | 9.0000e-005 | 0.0185 | 7.0000e-005 | 0.0185 | 4.7300e-003 | 6.0000e-005 | 4.7900e-003 | 0.0000 | 8.5514 | 8.5514 | 2.0000e-004 | 0.0000 | 8.5563 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

3.8 Landscaping - 2020

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 | 3.0500e-003 | 0.0132 | 0.1437 | 2.5000e-004 | | 4.1000e-004 | 4.1000e-004 | | 4.1000e-004 | 4.1000e-004 | 0.0000 | 21.8743 | 21.8743 | 7.0700e-003 | 0.0000 | 22.0512 |
| Total | 3.0500e-003 | 0.0132 | 0.1437 | 2.5000e-004 | | 4.1000e-004 | 4.1000e-004 | | 4.1000e-004 | 4.1000e-004 | 0.0000 | 21.8743 | 21.8743 | 7.0700e-003 | 0.0000 | 22.0512 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.5100e-003 | 2.4600e-003 | 0.0279 | 9.0000e-005 | 0.0185 | 7.0000e-005 | 0.0185 | 4.7300e-003 | 6.0000e-005 | 4.7900e-003 | 0.0000 | 8.5514 | 8.5514 | 2.0000e-004 | 0.0000 | 8.5563 |
| Total | 3.5100e-003 | 2.4600e-003 | 0.0279 | 9.0000e-005 | 0.0185 | 7.0000e-005 | 0.0185 | 4.7300e-003 | 6.0000e-005 | 4.7900e-003 | 0.0000 | 8.5514 | 8.5514 | 2.0000e-004 | 0.0000 | 8.5563 |

4.0 Operational Detail - Mobile

OCPW EGGW Channel Improvement Project - Orange County, Annual

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 | 1.2500e-003 | 5.5300e-003 | 0.0168 | 6.0000e-005 | 5.2400e-003 | 6.0000e-005 | 5.3000e-003 | 1.4000e-003 | 6.0000e-005 | 1.4600e-003 | 0.0000 | 5.5354 | 5.5354 | 2.4000e-004 | 0.0000 | 5.5414 |
| Unmitigated | 1.2500e-003 | 5.5300e-003 | 0.0168 | 6.0000e-005 | 5.2400e-003 | 6.0000e-005 | 5.3000e-003 | 1.4000e-003 | 6.0000e-005 | 1.4600e-003 | 0.0000 | 5.5354 | 5.5354 | 2.4000e-004 | 0.0000 | 5.5414 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|-------------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| User Defined Industrial | 0.00 | 0.00 | 0.00 | | |
| General Office Building | 6.00 | 0.00 | 0.00 | 13,806 | 13,806 |
| Total | 6.00 | 0.00 | 0.00 | 13,806 | 13,806 |

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 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| User Defined Industrial | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| General Office Building | 16.60 | 8.40 | 6.90 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |

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4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |
| User Defined Industrial | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |
| General Office Building | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-------------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4575 | 4.4575 | 1.8000e-004 | 4.0000e-005 | 4.4735 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4575 | 4.4575 | 1.8000e-004 | 4.0000e-005 | 4.4735 |
| NaturalGas Mitigated | 5.0000e-005 | 4.5000e-004 | 3.8000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.4878 | 0.4878 | 1.0000e-005 | 1.0000e-005 | 0.4906 |
| NaturalGas Unmitigated | 5.0000e-005 | 4.5000e-004 | 3.8000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.4878 | 0.4878 | 1.0000e-005 | 1.0000e-005 | 0.4906 |

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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 | | | | | |
| General Office Building | 9140 | 5.0000e-005 | 4.5000e-004 | 3.8000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.4878 | 0.4878 | 1.0000e-005 | 1.0000e-005 | 0.4906 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 5.0000e-005 | 4.5000e-004 | 3.8000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.4878 | 0.4878 | 1.0000e-005 | 1.0000e-005 | 0.4906 |

Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|----------------|--------------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| General Office Building | 9140 | 5.0000e-005 | 4.5000e-004 | 3.8000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.4878 | 0.4878 | 1.0000e-005 | 1.0000e-005 | 0.4906 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 5.0000e-005 | 4.5000e-004 | 3.8000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.4878 | 0.4878 | 1.0000e-005 | 1.0000e-005 | 0.4906 |

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5.3 Energy by Land Use - Electricity

Unmitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-----------------|---------------|--------------------|--------------------|---------------|
| Land Use | kWh/yr | MT/yr | | | |
| General Office Building | 13990 | 4.4575 | 1.8000e-004 | 4.0000e-005 | 4.4735 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 4.4575 | 1.8000e-004 | 4.0000e-005 | 4.4735 |

Mitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-----------------|---------------|--------------------|--------------------|---------------|
| Land Use | kWh/yr | MT/yr | | | |
| General Office Building | 13990 | 4.4575 | 1.8000e-004 | 4.0000e-005 | 4.4735 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 4.4575 | 1.8000e-004 | 4.0000e-005 | 4.4735 |

6.0 Area Detail

6.1 Mitigation Measures Area

OCPW EGGW Channel Improvement Project - Orange County, Annual

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.0186 | 0.0000 | 2.2000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4000e-004 | 4.4000e-004 | 0.0000 | 0.0000 | 4.6000e-004 |
| Unmitigated | 0.0186 | 0.0000 | 2.2000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4000e-004 | 4.4000e-004 | 0.0000 | 0.0000 | 4.6000e-004 |

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 | 0.0186 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.0000e-005 | 0.0000 | 2.2000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4000e-004 | 4.4000e-004 | 0.0000 | 0.0000 | 4.6000e-004 |
| Total | 0.0186 | 0.0000 | 2.2000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4000e-004 | 4.4000e-004 | 0.0000 | 0.0000 | 4.6000e-004 |

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6.2 Area by SubCategory

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.0186 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.0000e-005 | 0.0000 | 2.2000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4000e-004 | 4.4000e-004 | 0.0000 | 0.0000 | 4.6000e-004 |
| Total | 0.0186 | 0.0000 | 2.2000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 4.4000e-004 | 4.4000e-004 | 0.0000 | 0.0000 | 4.6000e-004 |

7.0 Water Detail

7.1 Mitigation Measures Water

OCPW EGGW Channel Improvement Project - Orange County, Annual

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|-------------|-------------|--------|
| Category | MT/yr | | | |
| Mitigated | 1.1794 | 5.8400e-003 | 1.5000e-004 | 1.3689 |
| Unmitigated | 1.1794 | 5.8400e-003 | 1.5000e-004 | 1.3689 |

7.2 Water by Land Use

Unmitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|---------------------|---------------|--------------------|--------------------|---------------|
| Land Use | Mgal | MT/yr | | | |
| General Office Building | 0.177734 / 0.108934 | 1.1794 | 5.8400e-003 | 1.5000e-004 | 1.3689 |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.1794 | 5.8400e-003 | 1.5000e-004 | 1.3689 |

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7.2 Water by Land Use

Mitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|---------------------|---------------|--------------------|--------------------|---------------|
| Land Use | Mgal | MT/yr | | | |
| General Office Building | 0.177734 / 0.108934 | 1.1794 | 5.8400e-003 | 1.5000e-004 | 1.3689 |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.1794 | 5.8400e-003 | 1.5000e-004 | 1.3689 |

8.0 Waste Detail

8.1 Mitigation Measures Waste

OCPW EGGW Channel Improvement Project - Orange County, Annual

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|--------|
| | MT/yr | | | |
| Mitigated | 0.1888 | 0.0112 | 0.0000 | 0.4677 |
| Unmitigated | 0.1888 | 0.0112 | 0.0000 | 0.4677 |

8.2 Waste by Land Use

Unmitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use | tons | MT/yr | | | |
| General Office Building | 0.93 | 0.1888 | 0.0112 | 0.0000 | 0.4677 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.1888 | 0.0112 | 0.0000 | 0.4677 |

OCPW EGGW Channel Improvement Project - Orange County, Annual

8.2 Waste by Land Use

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use | tons | MT/yr | | | |
| General Office Building | 0.93 | 0.1888 | 0.0112 | 0.0000 | 0.4677 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.1888 | 0.0112 | 0.0000 | 0.4677 |

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

OCPW EGGW Channel Improvement Project - Orange County, Annual

11.0 Vegetation

OCPW EGGW Channel Improvement Project - Orange County, Summer

OCPW EGGW Channel Improvement Project
Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|-------------------------|-------|----------|-------------|--------------------|------------|
| Other Asphalt Surfaces | 3.42 | Acre | 3.42 | 148,975.20 | 0 |
| General Office Building | 1.00 | 1000sqft | 0.02 | 1,000.00 | 0 |
| City Park | 13.11 | Acre | 13.11 | 571,071.60 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 30 |
| Climate Zone | 8 | | | Operational Year | 2021 |
| Utility Company | Southern California Edison | | | | |
| CO2 Intensity (lb/MWhr) | 702.44 | CH4 Intensity (lb/MWhr) | 0.029 | N2O Intensity (lb/MWhr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

OCPW EGGW Channel Improvement Project - Orange County, Summer

Project Characteristics - Start of construction assumed to be late 2018. In the event that construction occurs later, emissions would be lower due to the retirement of older, higher-emitting pieces of equipment.

Land Use - Other asphalt surfaces land use type used to represent 3.42 acres of maintenance roads on top of soil cement columns, city park land use type used to represent sheet piling/soil cement column installation (13.11-acre site); two office buildings (approximately 500 sf each) are assumed and operational emissions will be added to the construction emissions.

Construction Phase - Phases and durations provided by project manager; phase type has been approximated to capture the types of activities that would be performed under during each phase. Approximately one-month overlaps would occur between the first through third phases.

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors for the crane is default, and horsepower for the piling equipment power units (generators) was provided by OCPW

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default for dozers and backhoe; horsepower for drill rigs, cement mixers, and pumps were provided by OCPW.

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list and horsepower provided by OCPW; load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Off-road Equipment - Equipment list provided by OCPW; horsepower and load factors are default

Grading - Approximately 104,000 cy of soil cement would be used to do the columns; excavation within the channel would require approximately 142,000 cy of export

Trips and VMT - Worker trip estimates provided by OCPW. Deliveries of cement and piles assumed to be equally divided for the pile installation phase. Export to occur during grading/excavation in channel phase. All trip lengths are defaults.

Vehicle Trips - County inspector trips captured in the operational mobile emissions; contractor trips are captured in the construction mobile emissions. After construction, maintenance would be minimal, and would not increase relative to existing conditions.

Area Coating - No architectural coatings would be applied.

Energy Use -

Construction Off-road Equipment Mitigation - Rule 403 and Tier 4 Equipment

| Table Name | Column Name | Default Value | New Value |
|-------------------------|------------------------------|---------------|-----------|
| tblAreaCoating | Area_Nonresidential_Exterior | 286036 | 0 |
| tblAreaCoating | Area_Nonresidential_Interior | 858108 | 0 |
| tblAreaCoating | Area_Parking | 8939 | 0 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

| | | | |
|-------------------------|----------------------------|-----------|--------------|
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 6.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 10.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstructionPhase | NumDays | 30.00 | 200.00 |
| tblConstructionPhase | NumDays | 30.00 | 100.00 |
| tblConstructionPhase | NumDays | 20.00 | 15.00 |
| tblConstructionPhase | NumDays | 30.00 | 45.00 |
| tblConstructionPhase | NumDays | 10.00 | 45.00 |
| tblConstructionPhase | NumDays | 10.00 | 45.00 |
| tblConstructionPhase | NumDays | 300.00 | 150.00 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

| | | | |
|----------------------|------------------|------------|------------|
| tblConstructionPhase | PhaseEndDate | 12/7/2018 | 2/4/2020 |
| tblConstructionPhase | PhaseEndDate | 1/18/2019 | 6/23/2020 |
| tblConstructionPhase | PhaseEndDate | 4/24/2020 | 9/15/2020 |
| tblConstructionPhase | PhaseEndDate | 3/1/2019 | 8/25/2020 |
| tblConstructionPhase | PhaseEndDate | 10/12/2018 | 11/30/2018 |
| tblConstructionPhase | PhaseEndDate | 5/22/2020 | 11/17/2020 |
| tblConstructionPhase | PhaseEndDate | 10/26/2018 | 5/29/2019 |
| tblConstructionPhase | PhaseStartDate | 10/27/2018 | 5/1/2019 |
| tblConstructionPhase | PhaseStartDate | 12/8/2018 | 2/5/2020 |
| tblConstructionPhase | PhaseStartDate | 3/2/2019 | 8/26/2020 |
| tblConstructionPhase | PhaseStartDate | 1/19/2019 | 6/24/2020 |
| tblConstructionPhase | PhaseStartDate | 4/25/2020 | 9/16/2020 |
| tblConstructionPhase | PhaseStartDate | 10/13/2018 | 11/1/2018 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | AcresOfGrading | 0.00 | 1.00 |
| tblGrading | MaterialExported | 0.00 | 141,694.00 |
| tblGrading | MaterialImported | 0.00 | 104,271.00 |
| tblOffRoadEquipment | HorsePower | 158.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 247.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 221.00 | 450.00 |
| tblOffRoadEquipment | HorsePower | 9.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 97.00 | 350.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 350.00 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

| | | | |
|---------------------|----------------------------|------|-------------------------------------|
| tblOffRoadEquipment | LoadFactor | 0.40 | 0.40 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Loaders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Bore/Drill Rigs |
| tblOffRoadEquipment | OffRoadEquipmentType | | Cement and Mortar Mixers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rubber Tired Dozers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | PhaseName | | Asphalt paving of maintenance roads |
| tblOffRoadEquipment | PhaseName | | Landscaping |

OCPW EGGW Channel Improvement Project - Orange County, Summer

| | | | |
|---------------------|-------------------|--------|---|
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | PhaseName | | Landscaping |
| tblOffRoadEquipment | PhaseName | | Soil cement mixing, levee work, maintenance road prep |
| tblOffRoadEquipment | UsageHours | 8.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 4.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 4.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 60.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 12.00 |
| tblTripsAndVMT | VendorTripNumber | 118.00 | 48.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 303.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 5.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 20.00 |
| tblVehicleTrips | ST_TR | 2.46 | 0.00 |
| tblVehicleTrips | SU_TR | 1.05 | 0.00 |
| tblVehicleTrips | WD_TR | 11.03 | 6.00 |

2.0 Emissions Summary

OCPW EGGW Channel Improvement Project - Orange County, Summer

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 | | | | | |
| 2018 | 6.3172 | 70.8431 | 33.5051 | 0.1008 | 12.8747 | 2.9479 | 15.8225 | 6.8494 | 2.7644 | 9.6138 | 0.0000 | 10,852.64 35 | 10,852.64 35 | 1.4345 | 0.0000 | 10,888.50 53 |
| 2019 | 5.8594 | 63.5231 | 33.2060 | 0.1546 | 1.6826 | 1.9195 | 3.6021 | 0.6598 | 1.8594 | 2.5192 | 0.0000 | 16,758.71 55 | 16,758.71 55 | 1.8867 | 0.0000 | 16,805.88 31 |
| 2020 | 3.4745 | 34.6444 | 27.9859 | 0.0887 | 38.4545 | 1.4980 | 39.9526 | 20.4020 | 1.3782 | 21.7802 | 0.0000 | 9,364.989 1 | 9,364.989 1 | 1.4158 | 0.0000 | 9,400.383 6 |
| Maximum | 6.3172 | 70.8431 | 33.5051 | 0.1546 | 38.4545 | 2.9479 | 39.9526 | 20.4020 | 2.7644 | 21.7802 | 0.0000 | 16,758.71 55 | 16,758.71 55 | 1.8867 | 0.0000 | 16,805.88 31 |

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 | | | | | |
| 2018 | 1.4022 | 11.5264 | 43.2254 | 0.1008 | 5.5277 | 0.1866 | 5.7143 | 2.8109 | 0.1841 | 2.9950 | 0.0000 | 10,852.64 35 | 10,852.64 35 | 1.4345 | 0.0000 | 10,888.50 53 |
| 2019 | 2.0472 | 12.7808 | 64.2537 | 0.1546 | 1.1842 | 0.2620 | 1.4463 | 0.4016 | 0.2601 | 0.6617 | 0.0000 | 16,758.71 55 | 16,758.71 55 | 1.8867 | 0.0000 | 16,805.88 31 |
| 2020 | 1.1575 | 4.5887 | 39.3137 | 0.0887 | 16.1534 | 0.1412 | 16.2257 | 8.2490 | 0.1410 | 8.3210 | 0.0000 | 9,364.989 1 | 9,364.989 1 | 1.4158 | 0.0000 | 9,400.383 6 |
| Maximum | 2.0472 | 12.7808 | 64.2537 | 0.1546 | 16.1534 | 0.2620 | 16.2257 | 8.2490 | 0.2601 | 8.3210 | 0.0000 | 16,758.71 55 | 16,758.71 55 | 1.8867 | 0.0000 | 16,805.88 31 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|-------|-------|--------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 70.56 | 82.90 | -55.01 | 0.00 | 56.87 | 90.73 | 60.61 | 58.94 | 90.25 | 64.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Energy | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| Mobile | 0.0100 | 0.0406 | 0.1333 | 4.8000e-004 | 0.0410 | 4.7000e-004 | 0.0415 | 0.0110 | 4.4000e-004 | 0.0114 | | 48.5371 | 48.5371 | 2.0300e-003 | | 48.5879 |
| Total | 0.1125 | 0.0431 | 0.1372 | 4.9000e-004 | 0.0410 | 6.7000e-004 | 0.0417 | 0.0110 | 6.4000e-004 | 0.0116 | | 51.4869 | 51.4869 | 2.1000e-003 | 5.0000e-005 | 51.5555 |

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 | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Energy | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| Mobile | 0.0100 | 0.0406 | 0.1333 | 4.8000e-004 | 0.0410 | 4.7000e-004 | 0.0415 | 0.0110 | 4.4000e-004 | 0.0114 | | 48.5371 | 48.5371 | 2.0300e-003 | | 48.5879 |
| Total | 0.1125 | 0.0431 | 0.1372 | 4.9000e-004 | 0.0410 | 6.7000e-004 | 0.0417 | 0.0110 | 6.4000e-004 | 0.0116 | | 51.4869 | 51.4869 | 2.1000e-003 | 5.0000e-005 | 51.5555 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

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

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|---|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Site preparation of levees, infiltration cistern | Site Preparation | 10/1/2018 | 11/30/2018 | 5 | 45 | |
| 2 | Sheet pile installation | Building Construction | 11/1/2018 | 5/29/2019 | 5 | 150 | |
| 3 | Soil cement mixing, levee work, maintenance road prep | Grading | 5/1/2019 | 2/4/2020 | 5 | 200 | |
| 4 | Pile caps and retaining walls | Grading | 2/5/2020 | 6/23/2020 | 5 | 100 | |
| 5 | Grading/excavation inside channel | Grading | 6/24/2020 | 8/25/2020 | 5 | 45 | |
| 6 | Asphalt paving of maintenance roads | Paving | 8/26/2020 | 9/15/2020 | 5 | 15 | |
| 7 | Landscaping | Site Preparation | 9/16/2020 | 11/17/2020 | 5 | 45 | |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.42

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

OffRoad Equipment

OCPW EGGW Channel Improvement Project - Orange County, Summer

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---------------------------|--------|-------------|-------------|-------------|
| Soil cement mixing, levee work, maintenance road prep | Tractors/Loaders/Backhoes | 1 | 1.00 | 97 | 0.37 |
| Grading/excavation inside channel | Excavators | 1 | 4.00 | 350 | 0.38 |
| Grading/excavation inside channel | Rubber Tired Dozers | 2 | 8.00 | 350 | 0.40 |
| Asphalt paving of maintenance roads | Rubber Tired Loaders | 1 | 6.00 | 203 | 0.36 |
| Landscaping | Rubber Tired Dozers | 1 | 6.00 | 247 | 0.40 |
| Sheet pile installation | Cranes | 1 | 8.00 | 231 | 0.29 |
| Soil cement mixing, levee work, maintenance road prep | Bore/Drill Rigs | 2 | 8.00 | 450 | 0.50 |
| Soil cement mixing, levee work, maintenance road prep | Cement and Mortar Mixers | 2 | 8.00 | 350 | 0.56 |
| Asphalt paving of maintenance roads | Pavers | 1 | 8.00 | 130 | 0.42 |
| Landscaping | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Asphalt paving of maintenance roads | Rollers | 1 | 8.00 | 80 | 0.38 |
| Site preparation of levees, infiltration cistern | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site preparation of levees, infiltration cistern | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Soil cement mixing, levee work, maintenance road prep | Pumps | 2 | 8.00 | 350 | 0.74 |
| Grading/excavation inside channel | Tractors/Loaders/Backhoes | 1 | 8.00 | 350 | 0.37 |
| Soil cement mixing, levee work, maintenance road prep | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Pile caps and retaining walls | Tractors/Loaders/Backhoes | 2 | 4.00 | 97 | 0.37 |
| Sheet pile installation | Generator Sets | 2 | 8.00 | 350 | 0.74 |

Trips and VMT

OCPW EGGW Channel Improvement Project - Orange County, Summer

| 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 |
|--|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Landscaping | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site preparation of levees, infiltration ditches | 6 | 20.00 | 12.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Landscaping | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 60.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading/excavation inside channel | 4 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Sheet pile installation | 3 | 20.00 | 48.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Soil cement mixing, levee work, maintenance | 8 | 30.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Pile caps and retaining walls | 2 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Asphalt paving of maintenance roads | 3 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.2 Site preparation of levees, infiltration cistern - 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 | | | | | 12.0442 | 0.0000 | 12.0442 | 6.6205 | 0.0000 | 6.6205 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.3966 | 35.6388 | 18.0998 | 0.0295 | | 1.9663 | 1.9663 | | 1.8090 | 1.8090 | | 2,971.4505 | 2,971.4505 | 0.9251 | | 2,994.5768 |
| Total | 3.3966 | 35.6388 | 18.0998 | 0.0295 | 12.0442 | 1.9663 | 14.0105 | 6.6205 | 1.8090 | 8.4295 | | 2,971.4505 | 2,971.4505 | 0.9251 | | 2,994.5768 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0486 | 1.4315 | 0.3841 | 3.0300e-003 | 0.0767 | 0.0106 | 0.0873 | 0.0221 | 0.0101 | 0.0322 | | 329.1940 | 329.1940 | 0.0286 | | 329.9082 |
| Worker | 0.0896 | 0.0609 | 0.7856 | 2.3200e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 231.3351 | 231.3351 | 6.1300e-003 | | 231.4883 |
| Total | 0.1382 | 1.4924 | 1.1697 | 5.3500e-003 | 0.3002 | 0.0121 | 0.3123 | 0.0814 | 0.0115 | 0.0929 | | 560.5291 | 560.5291 | 0.0347 | | 561.3965 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.2 Site preparation of levees, infiltration cistern - 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 | | | | | 4.6972 | 0.0000 | 4.6972 | 2.5820 | 0.0000 | 2.5820 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3610 | 1.5644 | 17.0354 | 0.0295 | | 0.0481 | 0.0481 | | 0.0481 | 0.0481 | 0.0000 | 2,971.4505 | 2,971.4505 | 0.9251 | | 2,994.5768 |
| Total | 0.3610 | 1.5644 | 17.0354 | 0.0295 | 4.6972 | 0.0481 | 4.7454 | 2.5820 | 0.0481 | 2.6301 | 0.0000 | 2,971.4505 | 2,971.4505 | 0.9251 | | 2,994.5768 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0486 | 1.4315 | 0.3841 | 3.0300e-003 | 0.0767 | 0.0106 | 0.0873 | 0.0221 | 0.0101 | 0.0322 | | 329.1940 | 329.1940 | 0.0286 | | 329.9082 |
| Worker | 0.0896 | 0.0609 | 0.7856 | 2.3200e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 231.3351 | 231.3351 | 6.1300e-003 | | 231.4883 |
| Total | 0.1382 | 1.4924 | 1.1697 | 5.3500e-003 | 0.3002 | 0.0121 | 0.3123 | 0.0814 | 0.0115 | 0.0929 | | 560.5291 | 560.5291 | 0.0347 | | 561.3965 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.3 Sheet pile installation - 2018

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4984 | 27.9248 | 11.9136 | 0.0515 | | 0.9256 | 0.9256 | | 0.9020 | 0.9020 | | 5,772.5527 | 5,772.5527 | 0.3543 | | 5,781.4109 |
| Total | 2.4984 | 27.9248 | 11.9136 | 0.0515 | | 0.9256 | 0.9256 | | 0.9020 | 0.9020 | | 5,772.5527 | 5,772.5527 | 0.3543 | | 5,781.4109 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.1944 | 5.7261 | 1.5363 | 0.0121 | 0.3067 | 0.0424 | 0.3491 | 0.0883 | 0.0405 | 0.1288 | | 1,316.7760 | 1,316.7760 | 0.1143 | | 1,319.6328 |
| Worker | 0.0896 | 0.0609 | 0.7856 | 2.3200e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 231.3351 | 231.3351 | 6.1300e-003 | | 231.4883 |
| Total | 0.2840 | 5.7870 | 2.3219 | 0.0145 | 0.5303 | 0.0439 | 0.5741 | 0.1476 | 0.0419 | 0.1894 | | 1,548.1112 | 1,548.1112 | 0.1204 | | 1,551.1210 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.3 Sheet pile 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 | 0.6191 | 2.6825 | 22.6984 | 0.0515 | | 0.0825 | 0.0825 | | 0.0825 | 0.0825 | 0.0000 | 5,772.5527 | 5,772.5527 | 0.3543 | | 5,781.4109 |
| Total | 0.6191 | 2.6825 | 22.6984 | 0.0515 | | 0.0825 | 0.0825 | | 0.0825 | 0.0825 | 0.0000 | 5,772.5527 | 5,772.5527 | 0.3543 | | 5,781.4109 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.1944 | 5.7261 | 1.5363 | 0.0121 | 0.3067 | 0.0424 | 0.3491 | 0.0883 | 0.0405 | 0.1288 | | 1,316.7760 | 1,316.7760 | 0.1143 | | 1,319.6328 |
| Worker | 0.0896 | 0.0609 | 0.7856 | 2.3200e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 231.3351 | 231.3351 | 6.1300e-003 | | 231.4883 |
| Total | 0.2840 | 5.7870 | 2.3219 | 0.0145 | 0.5303 | 0.0439 | 0.5741 | 0.1476 | 0.0419 | 0.1894 | | 1,548.1112 | 1,548.1112 | 0.1204 | | 1,551.1210 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.3 Sheet pile installation - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3221 | 24.7905 | 11.5660 | 0.0515 | | 0.8211 | 0.8211 | | 0.8007 | 0.8007 | | 5,763.1653 | 5,763.1653 | 0.3452 | | 5,771.7946 |
| Total | 2.3221 | 24.7905 | 11.5660 | 0.0515 | | 0.8211 | 0.8211 | | 0.8007 | 0.8007 | | 5,763.1653 | 5,763.1653 | 0.3452 | | 5,771.7946 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.1800 | 5.4470 | 1.4399 | 0.0121 | 0.3067 | 0.0368 | 0.3435 | 0.0883 | 0.0352 | 0.1235 | | 1,310.2506 | 1,310.2506 | 0.1106 | | 1,313.0158 |
| Worker | 0.0824 | 0.0541 | 0.7135 | 2.2600e-003 | 0.2236 | 1.4900e-003 | 0.2251 | 0.0593 | 1.3800e-003 | 0.0607 | | 225.2281 | 225.2281 | 5.5400e-003 | | 225.3665 |
| Total | 0.2624 | 5.5011 | 2.1534 | 0.0143 | 0.5303 | 0.0383 | 0.5686 | 0.1476 | 0.0366 | 0.1841 | | 1,535.4786 | 1,535.4786 | 0.1162 | | 1,538.3823 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.3 Sheet pile installation - 2019

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 | 0.6191 | 2.6825 | 22.6984 | 0.0515 | | 0.0825 | 0.0825 | | 0.0825 | 0.0825 | 0.0000 | 5,763.165 3 | 5,763.165 3 | 0.3452 | | 5,771.794 6 |
| Total | 0.6191 | 2.6825 | 22.6984 | 0.0515 | | 0.0825 | 0.0825 | | 0.0825 | 0.0825 | 0.0000 | 5,763.165 3 | 5,763.165 3 | 0.3452 | | 5,771.794 6 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|------------------------|------------------------|---------------|-----|------------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.1800 | 5.4470 | 1.4399 | 0.0121 | 0.3067 | 0.0368 | 0.3435 | 0.0883 | 0.0352 | 0.1235 | | 1,310.250 6 | 1,310.250 6 | 0.1106 | | 1,313.015 8 |
| Worker | 0.0824 | 0.0541 | 0.7135 | 2.2600e-003 | 0.2236 | 1.4900e-003 | 0.2251 | 0.0593 | 1.3800e-003 | 0.0607 | | 225.2281 | 225.2281 | 5.5400e-003 | | 225.3665 |
| Total | 0.2624 | 5.5011 | 2.1534 | 0.0143 | 0.5303 | 0.0383 | 0.5686 | 0.1476 | 0.0366 | 0.1841 | | 1,535.478 6 | 1,535.478 6 | 0.1162 | | 1,538.382 3 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.4 Soil cement mixing, levee work, maintenance road prep - 2019

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 | | | | | 0.8170 | 0.0000 | 0.8170 | 0.4233 | 0.0000 | 0.4233 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.1513 | 33.1504 | 18.4164 | 0.0854 | | 1.0579 | 1.0579 | | 1.0201 | 1.0201 | | 9,122.2294 | 9,122.2294 | 1.4171 | | 9,157.6564 |
| Total | 3.1513 | 33.1504 | 18.4164 | 0.0854 | 0.8170 | 1.0579 | 1.8750 | 0.4233 | 1.0201 | 1.4434 | | 9,122.2294 | 9,122.2294 | 1.4171 | | 9,157.6564 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1236 | 0.0811 | 1.0702 | 3.3900e-003 | 0.3353 | 2.2400e-003 | 0.3376 | 0.0889 | 2.0600e-003 | 0.0910 | | 337.8421 | 337.8421 | 8.3100e-003 | | 338.0497 |
| Total | 0.1236 | 0.0811 | 1.0702 | 3.3900e-003 | 0.3353 | 2.2400e-003 | 0.3376 | 0.0889 | 2.0600e-003 | 0.0910 | | 337.8421 | 337.8421 | 8.3100e-003 | | 338.0497 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.4 Soil cement mixing, levee work, maintenance road prep - 2019

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 | | | | | 0.3186 | 0.0000 | 0.3186 | 0.1651 | 0.0000 | 0.1651 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.0422 | 4.5161 | 38.3317 | 0.0854 | | 0.1390 | 0.1390 | | 0.1390 | 0.1390 | 0.0000 | 9,122.2294 | 9,122.2294 | 1.4171 | | 9,157.6564 |
| Total | 1.0422 | 4.5161 | 38.3317 | 0.0854 | 0.3186 | 0.1390 | 0.4576 | 0.1651 | 0.1390 | 0.3040 | 0.0000 | 9,122.2294 | 9,122.2294 | 1.4171 | | 9,157.6564 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1236 | 0.0811 | 1.0702 | 3.3900e-003 | 0.3353 | 2.2400e-003 | 0.3376 | 0.0889 | 2.0600e-003 | 0.0910 | | 337.8421 | 337.8421 | 8.3100e-003 | | 338.0497 |
| Total | 0.1236 | 0.0811 | 1.0702 | 3.3900e-003 | 0.3353 | 2.2400e-003 | 0.3376 | 0.0889 | 2.0600e-003 | 0.0910 | | 337.8421 | 337.8421 | 8.3100e-003 | | 338.0497 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.4 Soil cement mixing, levee work, maintenance road prep - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|------------------------|------------------------|---------------|-----|------------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.8170 | 0.0000 | 0.8170 | 0.4233 | 0.0000 | 0.4233 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.0040 | 29.6847 | 18.1296 | 0.0854 | | 0.9605 | 0.9605 | | 0.9253 | 0.9253 | | 9,037.976 0 | 9,037.976 0 | 1.4083 | | 9,073.184 1 |
| Total | 3.0040 | 29.6847 | 18.1296 | 0.0854 | 0.8170 | 0.9605 | 1.7775 | 0.4233 | 0.9253 | 1.3486 | | 9,037.976 0 | 9,037.976 0 | 1.4083 | | 9,073.184 1 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1153 | 0.0726 | 0.9820 | 3.2800e-003 | 0.3353 | 2.2200e-003 | 0.3376 | 0.0889 | 2.0400e-003 | 0.0910 | | 327.0131 | 327.0131 | 7.4500e-003 | | 327.1995 |
| Total | 0.1153 | 0.0726 | 0.9820 | 3.2800e-003 | 0.3353 | 2.2200e-003 | 0.3376 | 0.0889 | 2.0400e-003 | 0.0910 | | 327.0131 | 327.0131 | 7.4500e-003 | | 327.1995 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.4 Soil cement mixing, levee work, maintenance road prep - 2020

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 | | | | | 0.3186 | 0.0000 | 0.3186 | 0.1651 | 0.0000 | 0.1651 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.0422 | 4.5161 | 38.3317 | 0.0854 | | 0.1390 | 0.1390 | | 0.1390 | 0.1390 | 0.0000 | 9,037.976 0 | 9,037.976 0 | 1.4083 | | 9,073.184 1 |
| Total | 1.0422 | 4.5161 | 38.3317 | 0.0854 | 0.3186 | 0.1390 | 0.4576 | 0.1651 | 0.1390 | 0.3040 | 0.0000 | 9,037.976 0 | 9,037.976 0 | 1.4083 | | 9,073.184 1 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1153 | 0.0726 | 0.9820 | 3.2800e-003 | 0.3353 | 2.2200e-003 | 0.3376 | 0.0889 | 2.0400e-003 | 0.0910 | | 327.0131 | 327.0131 | 7.4500e-003 | | 327.1995 |
| Total | 0.1153 | 0.0726 | 0.9820 | 3.2800e-003 | 0.3353 | 2.2200e-003 | 0.3376 | 0.0889 | 2.0400e-003 | 0.0910 | | 327.0131 | 327.0131 | 7.4500e-003 | | 327.1995 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.5 Pile caps and retaining walls - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.2095 | 2.1052 | 2.2797 | 3.1100e-003 | | 0.1331 | 0.1331 | | 0.1225 | 0.1225 | | 300.7685 | 300.7685 | 0.0973 | | 303.2004 |
| Total | 0.2095 | 2.1052 | 2.2797 | 3.1100e-003 | | 0.1331 | 0.1331 | | 0.1225 | 0.1225 | | 300.7685 | 300.7685 | 0.0973 | | 303.2004 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |
| Total | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.5 Pile caps and retaining walls - 2020

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 | 0.0380 | 0.1646 | 2.3421 | 3.1100e-003 | | 5.0600e-003 | 5.0600e-003 | | 5.0600e-003 | 5.0600e-003 | 0.0000 | 300.7685 | 300.7685 | 0.0973 | | 303.2004 |
| Total | 0.0380 | 0.1646 | 2.3421 | 3.1100e-003 | | 5.0600e-003 | 5.0600e-003 | | 5.0600e-003 | 5.0600e-003 | 0.0000 | 300.7685 | 300.7685 | 0.0973 | | 303.2004 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |
| Total | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.6 Grading/excavation inside channel - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 36.5593 | 0.0000 | 36.5593 | 19.9229 | 0.0000 | 19.9229 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.2339 | 34.1325 | 25.9293 | 0.0409 | | 1.4924 | 1.4924 | | 1.3730 | 1.3730 | | 3,965.1856 | 3,965.1856 | 1.2824 | | 3,997.2461 |
| Total | 3.2339 | 34.1325 | 25.9293 | 0.0409 | 36.5593 | 1.4924 | 38.0517 | 19.9229 | 1.3730 | 21.2959 | | 3,965.1856 | 3,965.1856 | 1.2824 | | 3,997.2461 |

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 | 0.0101 | 0.3666 | 0.0926 | 1.0200e-003 | 0.0585 | 1.1900e-003 | 0.0597 | 0.0150 | 1.1400e-003 | 0.0161 | | 113.7411 | 113.7411 | 0.0118 | | 114.0358 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.2306 | 0.1453 | 1.9640 | 6.5600e-003 | 1.8368 | 4.4300e-003 | 1.8412 | 0.4641 | 4.0800e-003 | 0.4682 | | 654.0262 | 654.0262 | 0.0149 | | 654.3989 |
| Total | 0.2407 | 0.5119 | 2.0566 | 7.5800e-003 | 1.8952 | 5.6200e-003 | 1.9009 | 0.4791 | 5.2200e-003 | 0.4843 | | 767.7672 | 767.7672 | 0.0267 | | 768.4347 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.6 Grading/excavation inside channel - 2020

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 | | | | | 14.2581 | 0.0000 | 14.2581 | 7.7699 | 0.0000 | 7.7699 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.5006 | 2.1692 | 18.3547 | 0.0409 | | 0.0667 | 0.0667 | | 0.0667 | 0.0667 | 0.0000 | 3,965.1856 | 3,965.1856 | 1.2824 | | 3,997.2461 |
| Total | 0.5006 | 2.1692 | 18.3547 | 0.0409 | 14.2581 | 0.0667 | 14.3249 | 7.7699 | 0.0667 | 7.8367 | 0.0000 | 3,965.1856 | 3,965.1856 | 1.2824 | | 3,997.2461 |

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 | 0.0101 | 0.3666 | 0.0926 | 1.0200e-003 | 0.0585 | 1.1900e-003 | 0.0597 | 0.0150 | 1.1400e-003 | 0.0161 | | 113.7411 | 113.7411 | 0.0118 | | 114.0358 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.2306 | 0.1453 | 1.9640 | 6.5600e-003 | 1.8368 | 4.4300e-003 | 1.8412 | 0.4641 | 4.0800e-003 | 0.4682 | | 654.0262 | 654.0262 | 0.0149 | | 654.3989 |
| Total | 0.2407 | 0.5119 | 2.0566 | 7.5800e-003 | 1.8952 | 5.6200e-003 | 1.9009 | 0.4791 | 5.2200e-003 | 0.4843 | | 767.7672 | 767.7672 | 0.0267 | | 768.4347 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.7 Asphalt paving of maintenance roads - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.7514 | 8.1986 | 6.0182 | 0.0120 | | 0.3791 | 0.3791 | | 0.3488 | 0.3488 | | 1,163.2085 | 1,163.2085 | 0.3762 | | 1,172.6136 |
| Paving | 0.5974 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.3487 | 8.1986 | 6.0182 | 0.0120 | | 0.3791 | 0.3791 | | 0.3488 | 0.3488 | | 1,163.2085 | 1,163.2085 | 0.3762 | | 1,172.6136 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |
| Total | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.7 Asphalt paving of maintenance roads - 2020

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 | 0.1480 | 0.6411 | 7.6735 | 0.0120 | | 0.0197 | 0.0197 | | 0.0197 | 0.0197 | 0.0000 | 1,163.2085 | 1,163.2085 | 0.3762 | | 1,172.6136 |
| Paving | 0.5974 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 0.7453 | 0.6411 | 7.6735 | 0.0120 | | 0.0197 | 0.0197 | | 0.0197 | 0.0197 | 0.0000 | 1,163.2085 | 1,163.2085 | 0.3762 | | 1,172.6136 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |
| Total | 0.0769 | 0.0484 | 0.6547 | 2.1900e-003 | 0.2236 | 1.4800e-003 | 0.2250 | 0.0593 | 1.3600e-003 | 0.0607 | | 218.0087 | 218.0087 | 4.9700e-003 | | 218.1330 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.8 Landscaping - 2020

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.1239 | 11.6569 | 6.5183 | 0.0111 | | 0.6159 | 0.6159 | | 0.5666 | 0.5666 | | 1,071.6596 | 1,071.6596 | 0.3466 | | 1,080.3246 |
| Total | 1.1239 | 11.6569 | 6.5183 | 0.0111 | | 0.6159 | 0.6159 | | 0.5666 | 0.5666 | | 1,071.6596 | 1,071.6596 | 0.3466 | | 1,080.3246 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1537 | 0.0968 | 1.3093 | 4.3700e-003 | 0.8358 | 2.9600e-003 | 0.8388 | 0.2140 | 2.7200e-003 | 0.2167 | | 436.0174 | 436.0174 | 9.9400e-003 | | 436.2659 |
| Total | 0.1537 | 0.0968 | 1.3093 | 4.3700e-003 | 0.8358 | 2.9600e-003 | 0.8388 | 0.2140 | 2.7200e-003 | 0.2167 | | 436.0174 | 436.0174 | 9.9400e-003 | | 436.2659 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

3.8 Landscaping - 2020

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 | 0.1354 | 0.5867 | 6.3883 | 0.0111 | | 0.0181 | 0.0181 | | 0.0181 | 0.0181 | 0.0000 | 1,071.6596 | 1,071.6596 | 0.3466 | | 1,080.3246 |
| Total | 0.1354 | 0.5867 | 6.3883 | 0.0111 | | 0.0181 | 0.0181 | | 0.0181 | 0.0181 | 0.0000 | 1,071.6596 | 1,071.6596 | 0.3466 | | 1,080.3246 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.1537 | 0.0968 | 1.3093 | 4.3700e-003 | 0.8358 | 2.9600e-003 | 0.8388 | 0.2140 | 2.7200e-003 | 0.2167 | | 436.0174 | 436.0174 | 9.9400e-003 | | 436.2659 |
| Total | 0.1537 | 0.0968 | 1.3093 | 4.3700e-003 | 0.8358 | 2.9600e-003 | 0.8388 | 0.2140 | 2.7200e-003 | 0.2167 | | 436.0174 | 436.0174 | 9.9400e-003 | | 436.2659 |

4.0 Operational Detail - Mobile

OCPW EGGW Channel Improvement Project - Orange County, Summer

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 | 0.0100 | 0.0406 | 0.1333 | 4.8000e-004 | 0.0410 | 4.7000e-004 | 0.0415 | 0.0110 | 4.4000e-004 | 0.0114 | | 48.5371 | 48.5371 | 2.0300e-003 | | | 48.5879 |
| Unmitigated | 0.0100 | 0.0406 | 0.1333 | 4.8000e-004 | 0.0410 | 4.7000e-004 | 0.0415 | 0.0110 | 4.4000e-004 | 0.0114 | | 48.5371 | 48.5371 | 2.0300e-003 | | | 48.5879 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|-------------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| User Defined Industrial | 0.00 | 0.00 | 0.00 | | |
| General Office Building | 6.00 | 0.00 | 0.00 | 13,806 | 13,806 |
| Total | 6.00 | 0.00 | 0.00 | 13,806 | 13,806 |

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 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| User Defined Industrial | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| General Office Building | 16.60 | 8.40 | 6.90 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |
| User Defined Industrial | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |
| General Office Building | 0.555968 | 0.043848 | 0.210359 | 0.116378 | 0.016765 | 0.005795 | 0.025008 | 0.016160 | 0.001677 | 0.001586 | 0.004867 | 0.000586 | 0.001002 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| NaturalGas Unmitigated | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |

OCPW EGGW Channel Improvement Project - Orange County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|--------------------|---------------|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 25.0411 | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |

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 Office Building | 0.0250411 | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.7000e-004 | 2.4600e-003 | 2.0600e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9460 | 2.9460 | 6.0000e-005 | 5.0000e-005 | 2.9635 |

6.0 Area Detail

6.1 Mitigation Measures Area

OCPW EGGW Channel Improvement Project - Orange County, Summer

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|-----|-------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Unmitigated | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.1020 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.7000e-004 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Total | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |

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6.2 Area by SubCategory

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.1020 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.7000e-004 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |
| Total | 0.1022 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | | 3.8400e-003 | 3.8400e-003 | 1.0000e-005 | | 4.0900e-003 |

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

OCPW EGGW Channel Improvement Project - Orange County, Summer

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

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

11.0 Vegetation
