# APPENDIX A
# EMISSIONS MODELING

**EMISSIONS MODELING ASSUMPTIONS**

**Typical Construction Duration** 8 hour work day/5 days a week

**Typical Number of Workers:** Typically one worker per equipment plus Foreman and Survey crew (2 person) for RM 178. From Chico or Oroville

**Haul Travel Distance:** Disposal is estimated at 25 miles, one way/ Quarry Stone from Parks Bar Quarry, 50 miles, one way

**Worker Travel Distance:** 10-12 miles/trip to Willows; 19-20 miles/trip to Durham; 22-25 miles/trip to Chico.

**Phase 1 Riprap Installation**

| Phase/Activity | Work Days | Total Area Disturbed | Off-Road Equipment Type | Total No. of Off-Road Equipment | Equipment Hours/Day | No. of One-Way Onsite Worker Trips/Day | Amount Imported | Amount Exported | No. On-Road Haul Truck Trips | One-Way Trip Length |
|---|---|---|---|---|---|---|---|---|---|---|
| **Mobilization** | 3 | | No Offroad Equipment | | | | | | Min. 3 HDT/Day (Avg. 8 Equipment Total/3 Days) | 25 |
| **Site Preparation/ Clearing** | 8 | 9 acres | Excavator/Loader/Water Truck / 4 Dump Trucks | 7 | 8 | 18 | | | | |
| **Excavation/ Fill** | 10 | | Excavator/Crawler/Off Road Dump/Water Truck | 4 | 8 | 12 | 750 cy | | | |
| **Quarry Stone Installation** | 25 | | Excavator/Crawler/Water Trk. | 3 | 10 | 10 | 29010 tons | | 20 trucks, 3 trips/truck/day | 50 |
| **Soil Filled Quarry Stone Installation** | 11 | | Excavator/Crawler/Water Trk. | 3 | 10 | 10 | 12450 tons | | 20 trucks, 3 trips/truck/day | 50 |
| **Backfill/Soil Cover** | 10 | | Excavator/Crawler/Water Trk. | 3 | 10 | 10 | 7780 cy (11670 tons) | | 20 trucks, 3 trips/truck/day | 25 |

| Phase 2 Rock Removal | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Phase/Activity | Work Days | Total Area Disturbed | Off-Road Equipment Type | Total No. of Off-Road Equipment | Equipment Hours/Day | No. of One-Way Onsite Worker Trips/Day | Amount Imported | Amount Exported | No. On-Road Haul Trucks | One-Way Trip Length |
| **Mobilization** | 2 | | No Offroad Equipment | | | | | | Min. 3 HDT/Day (Avg. 6 Equipment Total/2 Days) | 25 |
| **Site Preparation** | 3 | 6 acres | Excavator/Crawler/Loader/2 Dump Trks/Water Trk | 6 | 8 | 16 | | | | |
| **Rock Removal** | 50 | | Excavator/Loader/Water Trk | 3 | 8 | 10 | | 10781 cy (16172 tons) | 4 trucks, 3 trips/truck/day | 25 |
| **Excavation** | 11 | | Excavator/Loader/Water Trk | 3 | 8 | 10 | | 2650cy (3975 tons) | 6 trucks, 3 trips/truck/day | 25 |
| **Quarry Stone** | 15 | | Excavator/Loader/Water Trk | 3 | 10 | 10 | 3765 tons | | 4 trucks, 3 trips/truck/day | 25 |
| **Soil Cover** | 10 | | Excavator/Loader/Off Road Dump Trk/Water Trk | 4 | 8 | 12 | | | | |

| Phase 3 Restoration Plan | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Phase/Activity | Work Days | Total Area Disturbed | Off-Road Equipment Type | Total No. of Off-Road Equipment | Equipment Hours/Day | No. of One-Way Onsite Worker Trips/Day | Amount Imported | Amount Exported | No. On-Road Haul Trucks | One-Way Trip Length |
| **Site Preparation** | 4 | | No Offroad Equipment | | | | | | | |
| (Weed removal, mark boundaries, mowing/grading if needed, get plant stock) | 21 | 400 ac | Tractor | 2 | 8 | 8 | | | | |
| | 10 | | Track layer | 1 | | 8 | | | | |
| | 5 | | Mule/Gator | 2 | 6 | 8 | | | | |
| **Irrigation System Construction** | 15 | 400 ac | Tractor | 1 | 6 | 8 | | | | |
| (install well, pipes, drip system) | 15 | | Trencher | 1 | 8 | 8 | | | | |
| | 22 | | Mule/Gator | 2 | 6 | 8 | | | | |
| | 5 | | Well driller | 1 | 8 | 8 | | | | |
| | 5 | | Water truck | 1 | 4 | 8 | | | | |
| **Plantings** | 18 | 400 ac | Tractor | 2 | 6 | 8 | | | | |
| (haul plants to site, plant trees, seeds, finish site) | 18 | | Mule/Gator | 2 | 6 | 8 | | | | |
| | 5 | | | 0 | | 8 | | | | |
| **Maintenance & Monitoring** | 202 | 400 ac | Tractor | 2 | 6 | 4 | | | | |
| (monitor water system/plantings) | 212 | | Mule/Gator | 2 | 6 | 4 | | | | |

*Source: Perry 2012*

| Construction Phase/Activity | Maximum Daily Emissions (lbs/day) [1] | | | |
|---|---|---|---|---|
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| **Phase I -** | | | | |
| Mobilization | | | | |
| Onsite | 0 | 0 | 0 | 0 |
| Offsite | 0.15 | 1.88 | 0.34 | 0.07 |
| **Total** | **0.15** | **1.88** | **0.34** | **0.07** |
| Site Preparation/Grading | | | | |
| Onsite | 6.78 | 54.76 | 2.16 | 2.16 |
| Offsite | 0.28 | 0.27 | 0.38 | 0.02 |
| **Total** | **7.06** | **55.03** | **2.54** | **2.18** |
| Excavation/Fill | | | | |
| Onsite | 3.64 | 27.9 | 1.85 | 1.31 |
| Offsite | 1.05 | 11.3 | 6.18 | 0.48 |
| **Total** | **4.69** | **39.2** | **8.03** | **1.79** |
| Quarry Stone Installation | | | | |
| Onsite | 3.11 | 22.99 | 1.98 | 1.23 |
| Offsite | 10.73 | 135.82 | 172.62 | 5.59 |
| **Total** | **13.84** | **158.81** | **174.6** | **6.82** |
| Soil Filled Quarry Stone Installation | | | | |
| Onsite | 3.11 | 22.99 | 1.97 | 1.23 |
| Offsite | 10.47 | 132.49 | 77.26 | 5.46 |
| **Total** | **13.58** | **155.48** | **79.23** | **6.69** |
| Backfill/Soil Cover | | | | |
| Onsite | 3.11 | 22.99 | 1.96 | 1.22 |
| Offsite | 9.12 | 115.22 | 61.54 | 4.74 |
| **Total** | **12.23** | **138.21** | **63.5** | **5.96** |
| **Maximum Daily Emissions:** | **13.84** | **158.81** | **174.6** | **6.82** |

| Phase II - | | | | |
|---|---|---|---|---|
| Mobilization | | | | |
| Onsite | 0 | 0 | 0 | 0 |
| Offsite | 0.15 | 1.88 | 0.25 | 0.07 |
| **Total** | **0.15** | **1.88** | **0.25** | **0.07** |
| Site Preparation | | | | |
| Onsite | 5.17 | 39.86 | 2.38 | 1.85 |
| Offsite | 0.25 | 0.24 | 0.33 | 0.02 |
| **Total** | **5.42** | **40.1** | **2.71** | **1.87** |
| Rock Removal | | | | |
| Onsite | 2.91 | 21.62 | 1.25 | 1.23 |
| Offsite | 1.5 | 17.04 | 40.08 | 0.67 |
| **Total** | **4.41** | **38.66** | **41.33** | **1.9** |
| Excavation | | | | |
| Onsite | 2.17 | 16.72 | 0.84 | 0.81 |
| Offsite | 1.66 | 19 | 10.58 | 0.75 |
| **Total** | **3.83** | **35.72** | **11.42** | **1.56** |
| Quarry Stone Installation | | | | |
| Onsite | 2.71 | 20.9 | 1.04 | 1.02 |
| Offsite | 2.44 | 29.48 | 23.06 | 1.22 |
| **Total** | **5.15** | **50.38** | **24.1** | **2.24** |
| Soil Cover | | | | |
| Onsite | 3.32 | 26.23 | 1.15 | 1.15 |
| Offsite | 0.18 | 0.18 | 0.25 | 0.02 |
| **Total** | **3.5** | **26.41** | **1.4** | **1.17** |
| **Maximum Daily Emissions:** | **5.42** | **50.38** | **41.33** | **2.24** |

| **Phase III -** | | | | |
|---|---|---|---|---|
| Site Preparation | | | | |
| Onsite | 1.06 | 6.29 | 0.51 | 0.51 |
| Offsite | 0.12 | 0.12 | 0.17 | 0.01 |
| **Total** | **1.18** | **6.41** | **0.68** | **0.52** |
| Irrigation System Installation | | | | |
| Onsite | 2.25 | 16.3 | 0.96 | 0.96 |
| Offsite | 0.21 | 1.22 | 0.48 | 0.05 |
| **Total** | **2.46** | **17.52** | **1.44** | **1.01** |
| Planting | | | | |
| Onsite | 1.03 | 5.76 | 0.45 | 0.45 |
| Offsite | 0.21 | 1.22 | 0.27 | 0.05 |
| **Total** | **1.24** | **6.98** | **0.72** | **0.5** |
| Maintenance & Monitoring | | | | |
| Onsite | 1.03 | 5.76 | 0.45 | 0.45 |
| Offsite | 0.06 | 0.06 | 0.08 | 0.01 |
| **Total** | **1.09** | **5.82** | **0.53** | **0.46** |
| **Maximum Daily Emissions:** | **2.46** | **17.52** | **1.44** | **1.01** |

| SUMMER CONDITIONS EMISSIONS SUMMARY | MAXIMUM DAILY EMISSIONS (UNMITIGATED) | | | |
|---|---|---|---|---|
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| PHASE I | 13.84 | 158.81 | 174.6 | 6.82 |
| PHASE II | 5.42 | 50.38 | 41.33 | 2.24 |
| PHASE III | 2.46 | 17.52 | 1.44 | 1.01 |

| Construction Phase/Activity | Maximum Daily Emissions (lbs/day) [1] Offroad Equipment w/Tier 3 | | | | Calculated Emissions Reduction Newer Onroad Haul Truck w/2000 or | | | |
|---|---|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| | | | | | 9.60% | 37.09% | 30.71% | 30.67% |
| **Phase I -** | | | | | | | | |
| Mobilization | | | | | | | | |
| Onsite | 0 | 0 | 0 | 0 | | | | |
| Offsite | 0.15 | 1.88 | 0.34 | 0.07 | | | | |
| **Total** | **0.15** | **1.88** | **0.34** | **0.07** | | | | |
| Site Preparation/Grading | | | | | | | | |
| Onsite | 5.77 | 37.37 | 2.29 | 2.29 | | | | |
| Offsite | 0.28 | 0.27 | 0.38 | 0.02 | | | | |
| **Total** | **6.05** | **37.64** | **2.67** | **2.31** | | | | |
| Excavation/Fill | | | | | | | | |
| Onsite | 2.77 | 17.86 | 1.38 | 1.18 | | | | |
| Offsite | 1.05 | 11.3 | 6.18 | 0.48 | | | | |
| **Total** | **3.82** | **29.16** | **7.56** | **1.66** | | | | |
| Quarry Stone Installation | | | | | | | | |
| Onsite | 2.19 | 14.04 | 1.28 | 1.01 | | | | |
| Offsite | 10.73 | 135.82 | 172.62 | 5.59 | | | | |
| **Total** | **12.92** | **149.86** | **173.9** | **6.6** | 1.02 | 50.31 | 52.94 | 1.71 |
| Soil Filled Quarry Stone Installation | | | | | | | | |
| Onsite | 2.19 | 14.04 | 1.28 | 1.01 | | | | |
| Offsite | 10.47 | 132.49 | 77.26 | 5.46 | | | | |
| **Total** | **12.66** | **146.53** | **78.54** | **6.47** | | | | |
| Backfill/Soil Cover | | | | | | | | |
| Onsite | 2.19 | 14.04 | 1.28 | 1.01 | | | | |
| Offsite | 9.12 | 115.22 | 61.54 | 4.74 | | | | |
| **Total** | **11.31** | **129.26** | **62.82** | **5.75** | | | | |
| **Maximum Daily Emissions w/Tier 3 Offroad** | **12.92** | **149.86** | **173.9** | **6.47** | **11.90** | **99.55** | **120.96** | **4.76** |

| Phase II - | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Mobilization | | | | | | | | |
| Onsite | 0 | 0 | 0 | 0 | | | | |
| Offsite | 0.15 | 1.88 | 0.25 | 0.07 | | | | |
| **Total** | **0.15** | **1.88** | **0.25** | **0.07** | | | | |
| Site Preparation | | | | | | | | |
| Onsite | 4.04 | 25.96 | 1.91 | 1.71 | | | | |
| Offsite | 0.25 | 0.24 | 0.33 | 0.02 | | | | |
| **Total** | **4.29** | **26.2** | **2.24** | **1.73** | | | | |
| Rock Removal | | | | | | | | |
| Onsite | 2.17 | 13.77 | 1.06 | 1.05 | | | | |
| Offsite | 1.5 | 17.04 | 40.08 | 0.67 | | | | |
| **Total** | **3.67** | **30.81** | **41.14** | **1.72** | | | 11.16 | |
| Excavation | | | | | | | | |
| Onsite | 1.69 | 10.83 | 0.77 | 0.76 | | | | |
| Offsite | 1.66 | 19 | 10.58 | 0.75 | | | | |
| **Total** | **3.35** | **29.83** | **11.35** | **1.51** | | | | |
| Quarry Stone Installation | | | | | | | | |
| Onsite | 2.11 | 13.54 | 0.96 | 0.95 | | | | |
| Offsite | 2.44 | 29.48 | 23.06 | 1.22 | | | | |
| **Total** | **4.55** | **43.02** | **24.02** | **2.17** | 0.22 | 10.88 | | 0.37 |
| Soil Cover | | | | | | | | |
| Onsite | 2.71 | 17.47 | 1.14 | 1.14 | | | | |
| Offsite | 0.18 | 0.18 | 0.25 | 0.02 | | | | |
| **Total** | **2.89** | **17.65** | **1.39** | **1.16** | | | | |
| **Maximum Daily Emissions:** | **4.55** | **43.02** | **41.14** | **2.17** | **4.33** | **32.14** | **29.98** | **1.80** |

| Phase III - | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Site Preparation | | | | | | | | |
| Onsite | 0.9 | 4.28 | 0.42 | 0.42 | | | | |
| Offsite | 0.12 | 0.12 | 0.17 | 0.01 | | | | |
| **Total** | **1.02** | **4.4** | **0.59** | **0.43** | | | | |
| Irrigation System Installation | | | | | | | | |
| Onsite | 3.43 | 11.58 | 0.89 | 0.89 | | | | |
| Offsite | 0.21 | 1.22 | 0.48 | 0.05 | | | | |
| **Total** | **3.64** | **12.8** | **1.37** | **0.94** | 0.00 | 0.23 | 0.02 | 0.01 |
| Planting | | | | | | | | |
| Onsite | 0.98 | 4.21 | 0.4 | 0.4 | | | | |
| Offsite | 0.21 | 1.22 | 0.27 | 0.05 | | | | |
| **Total** | **1.19** | **5.43** | **0.67** | **0.45** | | | | |
| Maximum Daily Emissions: | | | | | | | | |
| Maintenance & Monitoring | | | | | | | | |
| Onsite | 0.98 | 4.21 | 0.4 | 0.4 | | | | |
| Offsite | 0.06 | 0.06 | 0.08 | 0.01 | | | | |
| **Total** | **1.04** | **4.27** | **0.48** | **0.41** | | | | |
| **Maximum Daily Emissions:** | **3.64** | **12.8** | **1.37** | **0.94** | **3.64** | **12.57** | **1.35** | **0.93** |

| SUMMER CONDITIONS EMISSIONS SUMMARY | MAXIMUM DAILY EMISSIONS (W/TIER 3 OFFROAD EQUIPMENT) | | | | MAXIMUM DAILY EMISSIONS (W/TIER 3 OFFROAD EQUIPMENT & 2000 or NEWER ONROAD HAUL TRUCKS) | | | |
|---|---|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| PHASE I | 12.92 | 149.86 | 173.9 | 6.47 | 11.90 | 99.55 | 120.96 | 4.76 |
| PHASE II | 4.55 | 43.02 | 41.14 | 2.17 | 4.33 | 32.14 | 29.98 | 1.80 |
| PHASE III | 3.64 | 12.8 | 1.37 | 0.94 | 3.64 | 12.57 | 1.35 | 0.93 |

| Construction Phase/Activity | Maximum Daily Emissions (lbs/day) [1] | | | |
|---|---|---|---|---|
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| **Phase I -** | | | | |
| Mobilization | | | | |
| Onsite | 0 | 0 | 0 | 0 |
| Offsite | 0.16 | 1.92 | 0.34 | 0.07 |
| **Total** | **0.16** | **1.92** | **0.34** | **0.07** |
| Site Preparation/Grading | | | | |
| Onsite | 6.78 | 54.76 | 2.16 | 2.16 |
| Offsite | 0.28 | 0.3 | 0.38 | 0.02 |
| **Total** | **7.06** | **55.06** | **2.54** | **2.18** |
| Excavation/Fill | | | | |
| Onsite | 3.64 | 27.9 | 1.85 | 1.31 |
| Offsite | 1.07 | 11.62 | 6.18 | 0.48 |
| **Total** | **4.71** | **39.52** | **8.03** | **1.79** |
| Quarry Stone Installation | | | | |
| Onsite | 3.11 | 22.99 | 1.98 | 1.23 |
| Offsite | 10.95 | 139.49 | 172.65 | 5.62 |
| **Total** | **14.06** | **162.48** | **174.63** | **6.85** |
| Soil Filled Quarry Stone Installation | | | | |
| Onsite | 3.11 | 22.99 | 1.97 | 1.23 |
| Offsite | 10.69 | 136.08 | 77.29 | 5.49 |
| **Total** | **13.8** | **159.07** | **79.26** | **6.72** |
| Backfill/Soil Cover | | | | |
| Onsite | 3.11 | 22.99 | 1.96 | 1.22 |
| Offsite | 9.31 | 118.34 | 61.57 | 4.77 |
| **Total** | **12.42** | **141.33** | **63.53** | **5.99** |
| **Maximum Daily Emissions:** | **14.06** | **162.48** | **174.63** | **6.85** |

| **Phase II -** | | | | |
|---|---|---|---|---|
| Mobilization | | | | |
| Onsite | 0 | 0 | 0 | 0 |
| Offsite | 0.16 | 1.92 | 0.25 | 0.07 |
| **Total** | **0.16** | **1.92** | **0.25** | **0.07** |
| Site Preparation | | | | |
| Onsite | 5.17 | 39.86 | 2.38 | 1.85 |
| Offsite | 0.25 | 0.27 | 0.33 | 0.02 |
| **Total** | **5.42** | **40.13** | **2.71** | **1.87** |
| Rock Removal | | | | |
| Onsite | 2.91 | 21.62 | 1.25 | 1.23 |
| Offsite | 1.56 | 17.42 | 40.09 | 0.68 |
| **Total** | **4.47** | **39.04** | **41.34** | **1.91** |
| Excavation | | | | |
| Onsite | 2.17 | 16.72 | 0.84 | 0.81 |
| Offsite | 1.72 | 19.42 | 10.59 | 0.76 |
| **Total** | **3.89** | **36.14** | **11.43** | **1.57** |
| Quarry Stone Installation | | | | |
| Onsite | 2.71 | 20.9 | 1.04 | 1.02 |
| Offsite | 2.49 | 30.29 | 23.06 | 1.22 |
| **Total** | **5.2** | **51.19** | **24.1** | **2.24** |
| Soil Cover | | | | |
| Onsite | 3.32 | 26.23 | 1.15 | 1.15 |
| Offsite | 0.19 | 0.2 | 0.25 | 0.02 |
| **Total** | **3.51** | **26.43** | **1.4** | **1.17** |
| **Maximum Daily Emissions:** | **5.42** | **51.19** | **41.34** | **2.24** |

| **Phase III -** | | | | |
|---|---|---|---|---|
| Site Preparation | | | | |
| Onsite | 1.06 | 6.29 | 0.51 | 0.51 |
| Offsite | 0.12 | 0.13 | 0.17 | 0.01 |
| **Total** | **1.18** | **6.42** | **0.68** | **0.52** |
| Irrigation System Installation | | | | |
| Onsite | 2.25 | 15.3 | 0.96 | 0.96 |
| Offsite | 0.22 | 1.26 | 0.48 | 0.05 |
| **Total** | **2.47** | **16.56** | **1.44** | **1.01** |
| Planting | | | | |
| Onsite | 1.03 | 5.76 | 0.45 | 0.45 |
| Offsite | 0.22 | 1.26 | 0.27 | 0.05 |
| **Total** | **1.25** | **7.02** | **0.72** | **0.5** |
| Maximum Daily Emissions: | | | | |
| Maintenance & Monitoring | | | | |
| Onsite | 1.03 | 5.76 | 0.45 | 0.45 |
| Offsite | 0.06 | 0.07 | 0.08 | 0.01 |
| **Total** | **1.09** | **5.83** | **0.53** | **0.46** |
| **Maximum Daily Emissions:** | **2.47** | **16.56** | **1.44** | **1.01** |

| WINTER CONDITIONS EMISSIONS SUMMARY | MAXIMUM DAILY EMISSIONS (UNMITIGATED) | | | |
|---|---|---|---|---|
| | **ROG** | **$NO_X$** | **$PM_{10}$** | **$PM_{2.5}$** |
| PHASE I | 14.06 | 162.48 | 174.63 | 6.85 |
| PHASE II | 5.42 | 51.19 | 41.34 | 2.24 |
| PHASE III | 2.47 | 16.56 | 1.44 | 1.01 |

| Construction Phase/Activity | Maximum Daily Emissions (lbs/day) [1] Offroad Equipment w/Tier 3 | | | | Calculated Emissions Reduction Newer Onroad Haul Truck w/2000 or | | | |
|---|---|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| | | | | | 9.60% | 37.09% | 30.71% | 30.67% |
| **Phase I -** | | | | | | | | |
| Mobilization | | | | | | | | |
| Onsite | 0 | 0 | 0 | 0 | | | | |
| Offsite | 0.16 | 1.92 | 0.34 | 0.07 | | | | |
| **Total** | **0.16** | **1.92** | **0.34** | **0.07** | | | | |
| Site Preparation/Grading | | | | | | | | |
| Onsite | 5.77 | 37.37 | 2.29 | 2.29 | | | | |
| Offsite | 0.28 | 0.3 | 0.38 | 0.02 | | | | |
| **Total** | **6.05** | **37.67** | **2.67** | **2.31** | | | | |
| Excavation/Fill | | | | | | | | |
| Onsite | 2.77 | 17.86 | 1.38 | 1.18 | | | | |
| Offsite | 1.07 | 11.62 | 6.18 | 0.48 | | | | |
| **Total** | **3.84** | **29.48** | **7.56** | **1.66** | | | | |
| Quarry Stone Installation | | | | | | | | |
| Onsite | 2.19 | 14.04 | 1.28 | 1.01 | | | | |
| Offsite | 10.95 | 139.49 | 172.65 | 5.62 | | | | |
| **Total** | **13.14** | **153.53** | **173.93** | **6.63** | 1.04 | 51.67 | 52.95 | 1.72 |
| Soil Filled Quarry Stone Installation | | | | | | | | |
| Onsite | 2.19 | 14.04 | 1.28 | 1.01 | | | | |
| Offsite | 10.69 | 136.08 | 77.29 | 5.49 | | | | |
| **Total** | **12.88** | **150.12** | **78.57** | **6.5** | | | | |
| Backfill/Soil Cover | | | | | | | | |
| Onsite | 2.19 | 14.04 | 1.28 | 1.01 | | | | |
| Offsite | 9.31 | 118.34 | 61.57 | 4.77 | | | | |
| **Total** | **11.5** | **132.38** | **62.85** | **5.78** | | | | |
| **Maximum Daily Emissions:** | **13.14** | **153.53** | **173.93** | **6.63** | **12.10** | **101.86** | **120.98** | **4.91** |

| Phase II - | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Mobilization | | | | | | | | |
| Onsite | 0 | 0 | 0 | 0 | | | | |
| Offsite | 0.16 | 1.92 | 0.25 | 0.07 | | | | |
| **Total** | **0.16** | **1.92** | **0.25** | **0.07** | | | | |
| Site Preparation | | | | | | | | |
| Onsite | 4.04 | 25.96 | 1.91 | 1.71 | | | | |
| Offsite | 0.25 | 0.27 | 0.33 | 0.02 | | | | |
| **Total** | **4.29** | **26.23** | **2.24** | **1.73** | | | | |
| Rock Removal | | | | | | | | |
| Onsite | 2.17 | 13.77 | 1.06 | 1.05 | | | | |
| Offsite | 1.56 | 17.42 | 40.09 | 0.68 | | | | |
| **Total** | **3.73** | **31.19** | **41.15** | **1.73** | | | 11.16 | |
| Excavation | | | | | | | | |
| Onsite | 1.69 | 10.83 | 0.77 | 0.76 | | | | |
| Offsite | 1.72 | 19.42 | 10.59 | 0.76 | | | | |
| **Total** | **3.41** | **30.25** | **11.36** | **1.52** | | | | |
| Quarry Stone Installation | | | | | | | | |
| Onsite | 2.11 | 13.54 | 0.96 | 0.95 | | | | |
| Offsite | 2.49 | 30.29 | 23.06 | 1.22 | | | | |
| **Total** | **4.6** | **43.83** | **24.02** | **2.17** | 0.22 | 11.17 | | 0.37 |
| Soil Cover | | | | | | | | |
| Onsite | 2.71 | 17.47 | 1.14 | 1.14 | | | | |
| Offsite | 0.19 | 0.2 | 0.25 | 0.02 | | | | |
| **Total** | **2.9** | **17.67** | **1.39** | **1.16** | | | | |
| **Maximum Daily Emissions:** | **4.6** | **43.83** | **41.15** | **2.17** | **4.38** | **32.66** | **29.99** | **1.80** |

| Phase III - | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Site Preparation | | | | | | | | |
| Onsite | 0.9 | 4.28 | 0.42 | 0.42 | | | | |
| Offsite | 0.12 | 0.13 | 0.17 | 0.01 | | | | |
| **Total** | **1.02** | **4.41** | **0.59** | **0.43** | | | | |
| Irrigation System Installation | | | | | | | | |
| Onsite | 3.43 | 11.58 | 0.89 | 0.89 | | | | |
| Offsite | 0.22 | 1.26 | 0.48 | 0.05 | | | | |
| **Total** | **3.65** | **12.84** | **1.37** | **0.94** | 0.00 | 0.24 | 0.02 | 0.01 |
| Planting | | | | | | | | |
| Onsite | 0.98 | 4.21 | 0.4 | 0.4 | | | | |
| Offsite | 0.22 | 1.26 | 0.27 | 0.05 | | | | |
| **Total** | **1.2** | **5.47** | **0.67** | **0.45** | | | | |
| Maximum Daily Emissions: | | | | | | | | |
| Maintenance & Monitoring | | | | | | | | |
| Onsite | 0.98 | 4.21 | 0.4 | 0.4 | | | | |
| Offsite | 0.06 | 0.07 | 0.08 | 0.01 | | | | |
| **Total** | **1.04** | **4.28** | **0.48** | **0.41** | | | | |
| **Maximum Daily Emissions:** | **3.65** | **12.84** | **1.37** | **0.94** | **3.65** | **12.60** | **1.35** | **0.93** |

| WINTER CONDITIONS EMISSIONS SUMMARY | MAXIMUM DAILY EMISSIONS (W/TIER 3 OFFROAD EQUIPMENT) | | | | MAXIMUM DAILY EMISSIONS (W/TIER 3 OFFROAD EQUIPMENT & 2000 or NEWER ONROAD HAUL TRUCKS) | | | |
|---|---|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| PHASE I | 13.14 | 153.53 | 173.93 | 6.63 | 12.10 | 101.86 | 120.98 | 4.91 |
| PHASE II | 4.6 | 43.83 | 41.15 | 2.17 | 4.38 | 32.66 | 29.99 | 1.80 |
| PHASE III | 3.65 | 12.84 | 1.37 | 0.94 | 3.65 | 12.60 | 1.35 | 0.93 |

EMFAC2011
BUTTE COUNTY
AVG SPEED 40 MPH
VEHICLE CLASS HHDT (T6 INSTATE CONST. HD)
COMPARISON OF RUNNING EXHAUST EMISSION RATES (G/MI)

| MODEL YR | ROG | NOX | PM10 | PM2.5 | CO2 |
|---|---|---|---|---|---|
| 1980 | 1.516 | 13.508 | 1.266 | 1.165 | 1207.72 |
| 1981 | 1.516 | 13.508 | 1.266 | 1.165 | 1207.72 |
| 1982 | 1.516 | 13.508 | 1.266 | 1.165 | 1207.72 |
| 1983 | 1.516 | 13.508 | 1.266 | 1.165 | 1207.72 |
| 1984 | 1.516 | 13.508 | 1.266 | 1.165 | 1207.72 |
| 1985 | 1.516 | 13.508 | 1.266 | 1.165 | 1207.72 |
| 1986 | 1.516 | 13.508 | 1.266 | 1.165 | 1207.72 |
| 1987 | 1.615 | 13.686 | 1.224 | 1.126 | 1169.878 |
| 1988 | 1.615 | 13.686 | 1.224 | 1.126 | 1169.878 |
| 1989 | 1.615 | 13.686 | 1.224 | 1.126 | 1169.878 |
| 1990 | 1.615 | 13.686 | 1.224 | 1.126 | 1169.878 |
| 1991 | 0.475 | 13.835 | 0.493 | 0.453 | 1125.474 |
| 1992 | 0.465 | 13.774 | 0.485 | 0.446 | 1125.474 |
| 1993 | 0.455 | 13.711 | 0.476 | 0.438 | 1125.474 |
| 1994 | 0.469 | 13.818 | 0.286 | 0.263 | 1078.697 |
| 1995 | 0.457 | 13.743 | 0.28 | 0.258 | 1078.697 |
| 1996 | 0.307 | 13.537 | 0.191 | 0.176 | 1085.56 |
| 1997 | 0.287 | 13.203 | 0.183 | 0.168 | 1084.242 |
| 1998 | 0.235 | 11.689 | 0.165 | 0.151 | 1101.305 |
| 1999 | 0.279 | 13.55 | 0.172 | 0.158 | 1113.522 |
| 2000 | 0.268 | 13.449 | 0.167 | 0.154 | 1113.612 |
| 2001 | 0.257 | 13.337 | 0.161 | 0.148 | 1113.718 |
| 2002 | 0.234 | 0.132 | 0.149 | 0.137 | 1114.573 |
| 2003 | 0.155 | 6.534 | 0.2 | 0.184 | 1102.329 |
| 2004 | 0.148 | 6.439 | 0.194 | 0.178 | 1092.199 |
| 2005 | 0.23 | 6.338 | 0.307 | 0.283 | 1092.199 |
| 2006 | 0.216 | 6.231 | 0.294 | 0.271 | 1122.797 |
| 2007 | 0.148 | 4.17 | 0.04 | 0.036 | 1122.797 |
| 2008 | 0.138 | 3.779 | 0.037 | 0.034 | |
| 2009 | 1.27 | 3.222 | 0.034 | 0.031 | 1122.797 |
| 2010 | 0.079 | 1.106 | 0.031 | 0.029 | 1085.281 |
| 2011 | 0.073 | 0.903 | 0.028 | 0.026 | 1085.281 |
| 2012 | 0.067 | 0.666 | 0.025 | 0.023 | 1085.281 |
| 2013 | 0.058 | 0.546 | 0.021 | 0.019 | 1082.784 |
| WEIGHTED AVG (1980-2014) | 0.264 | 7.59 | 0.174 | 0.160 | 1092.075 |
| NON-WEIGHTED AVG(1980-2013) | 0.701 | 9.912 | 0.535 | 0.492 | 1099.637 |
| NON-WEIGHTED AVG(2000-2013) | 0.239 | 4.775 | 0.121 | 0.111 | 1023.975 |
| %REDUCTION COMP TO NON-WEIGHTED AVG: | 65.97% | 51.83% | 77.45% | 77.45% | 6.88% |
| %REDUCTION COMP TO WEIGHTED AVG: | **9.60%** | **37.09%** | **30.71%** | **30.67%** | **6.24%** |

| Construction Phase | ANNUAL GHG (MTCO2e) | | ANNUAL GHG (MTCO2e) w/MITIGATION | |
|---|---|---|---|---|
| | 2013 | 2014 | 2013 | 2014 |
| PHASE I | 591.85 | | 559.00 | |
| PHASE II | 241.11 | | 233.29 | |
| PHASE III | 80.48 | 2.66 | 80.47 | 2.48 |
| TOTAL | 913.44 | 2.66 | 872.76 | 2.48 |

# Sac River Riparian Sanctuary - Phase 1

**Butte County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Based on data provided by the project engineer. Assumes 9 acres of site preparation.

Construction Phase - Construction schedule based on activity durations provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - No offroad equipment required for this phase.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Trips and VMT - Worker trips increased, based on data provided by project engineer. Haul truck distance for quarry stone 50 miles/trip.

On-road Fugitive Dust - Based on model defaults.

Grading - Estimated amount of material imported provided by the project engineer.  Quarry silt content 1.0 derived from AP42.

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), watering of exposed areas (61%), replacement of ground cover on disturbed areas (5%), cleaning of track-out on paved roads (9%), limit onsite vehicle speed to 15 mph (SCAQMD, Table XI-D, 2007) Equipment mitigated to Tier 3 minimum.

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 13.84 | 158.81 | 65.79 | 0.25 | 168.60 | 6.00 | 174.60 | 0.83 | 6.00 | 6.83 | 0.00 | 26,532.43 | 0.00 | 1.00 | 0.00 | 26,553.52 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | | | | | |
| 2013 | 12.92 | 149.86 | 69.89 | 0.25 | 153.09 | 5.78 | 158.87 | 0.82 | 5.78 | 6.60 | 0.00 | 26,532.43 | 0.00 | 1.00 | 0.00 | 26,553.52 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Mobilization - 2013

**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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **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** |

## 3.2 Mobilization - 2013

### 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 | 0.15 | 1.88 | 0.77 | 0.00 | 0.27 | 0.06 | 0.34 | 0.01 | 0.06 | 0.07 | | 311.65 | | 0.01 | | 311.80 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.15** | **1.88** | **0.77** | **0.00** | **0.27** | **0.06** | **0.34** | **0.01** | **0.06** | **0.07** | | **311.65** | | **0.01** | | **311.80** |

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 |
| **Total** | **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** |

## 3.2 Mobilization - 2013

### 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 | 0.15 | 1.88 | 0.77 | 0.00 | 0.25 | 0.06 | 0.31 | 0.01 | 0.06 | 0.07 | | 311.65 | | 0.01 | | 311.80 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.15** | **1.88** | **0.77** | **0.00** | **0.25** | **0.06** | **0.31** | **0.01** | **0.06** | **0.07** | | **311.65** | | **0.01** | | **311.80** |

## 3.3 Site Prep/Clearing - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 6.78 | 54.76 | 22.37 | 0.07 | | 2.16 | 2.16 | | 2.16 | 2.16 | | 8,124.36 | | 0.60 | | 8,136.99 |
| **Total** | **6.78** | **54.76** | **22.37** | **0.07** | **0.00** | **2.16** | **2.16** | **0.00** | **2.16** | **2.16** | | **8,124.36** | | **0.60** | | **8,136.99** |

## 3.3 Site Prep/Clearing - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.28 | 0.27 | 2.94 | 0.00 | 0.37 | 0.01 | 0.38 | 0.01 | 0.01 | 0.02 | | 279.58 | | 0.02 | | 280.06 |
| **Total** | **0.28** | **0.27** | **2.94** | **0.00** | **0.37** | **0.01** | **0.38** | **0.01** | **0.01** | **0.02** | | **279.58** | | **0.02** | | **280.06** |

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 5.77 | 37.37 | 38.86 | 0.07 | | 2.29 | 2.29 | | 2.29 | 2.29 | 0.00 | 8,124.36 | | 0.60 | | 8,136.99 |
| **Total** | **5.77** | **37.37** | **38.86** | **0.07** | **0.00** | **2.29** | **2.29** | **0.00** | **2.29** | **2.29** | **0.00** | **8,124.36** | | **0.60** | | **8,136.99** |

## 3.3 Site Prep/Clearing - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.28 | 0.27 | 2.94 | 0.00 | 0.33 | 0.01 | 0.34 | 0.01 | 0.01 | 0.02 | | 279.58 | | 0.02 | | 280.06 |
| **Total** | **0.28** | **0.27** | **2.94** | **0.00** | **0.33** | **0.01** | **0.34** | **0.01** | **0.01** | **0.02** | | **279.58** | | **0.02** | | **280.06** |

## 3.4 Excavation/Fill - 2013

### 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 | | | | | 0.54 | 0.00 | 0.54 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 3.64 | 27.90 | 12.93 | 0.04 | | 1.31 | 1.31 | | 1.31 | 1.31 | | 3,850.14 | | 0.32 | | 3,856.94 |
| **Total** | **3.64** | **27.90** | **12.93** | **0.04** | **0.54** | **1.31** | **1.85** | **0.00** | **1.31** | **1.31** | | **3,850.14** | | **0.32** | | **3,856.94** |

## 3.4 Excavation/Fill - 2013

### 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 | 0.87 | 11.12 | 4.28 | 0.02 | 5.53 | 0.39 | 5.93 | 0.07 | 0.39 | 0.46 | | 1,915.45 | | 0.04 | | 1,916.32 |
| Vendor | 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 |
| Worker | 0.18 | 0.18 | 1.96 | 0.00 | 0.24 | 0.01 | 0.25 | 0.01 | 0.01 | 0.02 | | 186.39 | | 0.02 | | 186.71 |
| **Total** | **1.05** | **11.30** | **6.24** | **0.02** | **5.77** | **0.40** | **6.18** | **0.08** | **0.40** | **0.48** | | **2,101.84** | | **0.06** | | **2,103.03** |

### 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 | | | | | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.77 | 17.86 | 19.45 | 0.04 | | 1.18 | 1.18 | | 1.18 | 1.18 | 0.00 | 3,850.14 | | 0.32 | | 3,856.94 |
| **Total** | **2.77** | **17.86** | **19.45** | **0.04** | **0.20** | **1.18** | **1.38** | **0.00** | **1.18** | **1.18** | **0.00** | **3,850.14** | | **0.32** | | **3,856.94** |

## 3.4 Excavation/Fill - 2013

### 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 | 0.87 | 11.12 | 4.28 | 0.02 | 5.04 | 0.39 | 5.43 | 0.07 | 0.39 | 0.46 | | 1,915.45 | | 0.04 | | 1,916.32 |
| Vendor | 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 |
| Worker | 0.18 | 0.18 | 1.96 | 0.00 | 0.22 | 0.01 | 0.23 | 0.01 | 0.01 | 0.02 | | 186.39 | | 0.02 | | 186.71 |
| **Total** | **1.05** | **11.30** | **6.24** | **0.02** | **5.26** | **0.40** | **5.66** | **0.08** | **0.40** | **0.48** | | **2,101.84** | | **0.06** | | **2,103.03** |

## 3.5 Quarry Stone Installation - 2013

### 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 | | | | | 0.77 | 0.00 | 0.77 | 0.02 | 0.00 | 0.02 | | | | | | 0.00 |
| Off-Road | 3.11 | 22.99 | 11.93 | 0.03 | | 1.21 | 1.21 | | 1.21 | 1.21 | | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **3.11** | **22.99** | **11.93** | **0.03** | **0.77** | **1.21** | **1.98** | **0.02** | **1.21** | **1.23** | | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.5 Quarry Stone Installation - 2013

### 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 | 10.58 | 135.67 | 52.23 | 0.22 | 167.63 | 4.78 | 172.41 | 0.81 | 4.78 | 5.58 | | 23,376.70 | | 0.50 | | 23,387.23 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **10.73** | **135.82** | **53.86** | **0.22** | **167.83** | **4.79** | **172.62** | **0.82** | **4.79** | **5.59** | | **23,532.02** | | **0.51** | | **23,542.82** |

### 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 | | | | | 0.28 | 0.00 | 0.28 | 0.01 | 0.00 | 0.01 | | | | | | 0.00 |
| Off-Road | 2.19 | 14.04 | 16.03 | 0.03 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.00 | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **2.19** | **14.04** | **16.03** | **0.03** | **0.28** | **1.00** | **1.28** | **0.01** | **1.00** | **1.01** | **0.00** | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.5 Quarry Stone Installation - 2013

### 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 | 10.58 | 135.67 | 52.23 | 0.22 | 152.62 | 4.78 | 157.40 | 0.81 | 4.78 | 5.58 | | 23,376.70 | | 0.50 | | 23,387.23 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **10.73** | **135.82** | **53.86** | **0.22** | **152.81** | **4.79** | **157.59** | **0.82** | **4.79** | **5.59** | | **23,532.02** | | **0.51** | | **23,542.82** |

## 3.6 Soil Filled Quarry Stone Installation - 2013

### 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 | | | | | 0.76 | 0.00 | 0.76 | 0.02 | 0.00 | 0.02 | | | | | | 0.00 |
| Off-Road | 3.11 | 22.99 | 11.93 | 0.03 | | 1.21 | 1.21 | | 1.21 | 1.21 | | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **3.11** | **22.99** | **11.93** | **0.03** | **0.76** | **1.21** | **1.97** | **0.02** | **1.21** | **1.23** | | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.6 Soil Filled Quarry Stone Installation - 2013

### 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 | 10.32 | 132.34 | 50.95 | 0.22 | 72.39 | 4.66 | 77.05 | 0.79 | 4.66 | 5.45 | | 22,803.92 | | 0.49 | | 22,814.19 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **10.47** | **132.49** | **52.58** | **0.22** | **72.59** | **4.67** | **77.26** | **0.80** | **4.67** | **5.46** | | **22,959.24** | | **0.50** | | **22,969.78** |

### 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 | | | | | 0.28 | 0.00 | 0.28 | 0.01 | 0.00 | 0.01 | | | | | | 0.00 |
| Off-Road | 2.19 | 14.04 | 16.03 | 0.03 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.00 | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **2.19** | **14.04** | **16.03** | **0.03** | **0.28** | **1.00** | **1.28** | **0.01** | **1.00** | **1.01** | **0.00** | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.6 Soil Filled Quarry Stone Installation - 2013

### 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 | 10.32 | 132.34 | 50.95 | 0.22 | 65.95 | 4.66 | 70.61 | 0.79 | 4.66 | 5.45 | | 22,803.92 | | 0.49 | | 22,814.19 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **10.47** | **132.49** | **52.58** | **0.22** | **66.14** | **4.67** | **70.80** | **0.80** | **4.67** | **5.46** | | **22,959.24** | | **0.50** | | **22,969.78** |

## 3.7 Backfill/Soil Cover - 2013

### 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 | | | | | 0.75 | 0.00 | 0.75 | 0.01 | 0.00 | 0.01 | | | | | | 0.00 |
| Off-Road | 3.11 | 22.99 | 11.93 | 0.03 | | 1.21 | 1.21 | | 1.21 | 1.21 | | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **3.11** | **22.99** | **11.93** | **0.03** | **0.75** | **1.21** | **1.96** | **0.01** | **1.21** | **1.22** | | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.7 Backfill/Soil Cover - 2013

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 8.97 | 115.07 | 44.30 | 0.19 | 57.28 | 4.05 | 61.33 | 0.68 | 4.05 | 4.73 | | 19,826.99 | | 0.43 | | 19,835.93 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **9.12** | **115.22** | **45.93** | **0.19** | **57.48** | **4.06** | **61.54** | **0.69** | **4.06** | **4.74** | | **19,982.31** | | **0.44** | | **19,991.52** |

### 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 | | | | | 0.28 | 0.00 | 0.28 | 0.01 | 0.00 | 0.01 | | | | | | 0.00 |
| Off-Road | 2.19 | 14.04 | 16.03 | 0.03 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.00 | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **2.19** | **14.04** | **16.03** | **0.03** | **0.28** | **1.00** | **1.28** | **0.01** | **1.00** | **1.01** | **0.00** | **3,000.41** | | **0.28** | | **3,006.24** |

### 3.7 Backfill/Soil Cover - 2013

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 8.97 | 115.07 | 44.30 | 0.19 | 52.19 | 4.05 | 56.24 | 0.68 | 4.05 | 4.73 | | 19,826.99 | | 0.43 | | 19,835.93 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **9.12** | **115.22** | **45.93** | **0.19** | **52.38** | **4.06** | **56.43** | **0.69** | **4.06** | **4.74** | | **19,982.31** | | **0.44** | | **19,991.52** |

## 4.0 Mobile Detail

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

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

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

# 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Sac River Riparian Sanctuary - Phase 1

**Butte County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Based on data provided by the project engineer. Assumes 9 acres of site preparation.

Construction Phase - Construction schedule based on activity durations provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - No offroad equipment required for this phase.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Trips and VMT - Worker trips increased, based on data provided by project engineer. Haul truck distance for quarry stone 50 miles/trip.

On-road Fugitive Dust - Based on model defaults.

Grading - Estimated amount of material imported provided by the project engineer.  Quarry silt content 1.0 derived from AP42.

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), watering of exposed areas (61%), replacement of ground cover on disturbed areas (5%), cleaning of track-out on paved roads (9%), limit onsite vehicle speed to 15 mph (SCAQMD, Table XI-D, 2007) Equipment mitigated to Tier 3 minimum.

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 14.06 | 162.48 | 68.79 | 0.25 | 168.60 | 6.03 | 174.63 | 0.83 | 6.03 | 6.86 | 0.00 | 26,452.05 | 0.00 | 1.00 | 0.00 | 26,473.10 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | | | | | |
| 2013 | 13.14 | 153.53 | 72.90 | 0.25 | 153.09 | 5.81 | 158.90 | 0.82 | 5.81 | 6.63 | 0.00 | 26,452.05 | 0.00 | 1.00 | 0.00 | 26,473.10 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Mobilization - 2013

**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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **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** |

## 3.2 Mobilization - 2013

### 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 | 0.16 | 1.92 | 0.86 | 0.00 | 0.27 | 0.06 | 0.34 | 0.01 | 0.06 | 0.07 | | 310.11 | | 0.01 | | 310.27 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.16** | **1.92** | **0.86** | **0.00** | **0.27** | **0.06** | **0.34** | **0.01** | **0.06** | **0.07** | | **310.11** | | **0.01** | | **310.27** |

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 |
| **Total** | **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** |

## 3.2 Mobilization - 2013

### 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 | 0.16 | 1.92 | 0.86 | 0.00 | 0.25 | 0.06 | 0.31 | 0.01 | 0.06 | 0.07 | | 310.11 | | 0.01 | | 310.27 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.16** | **1.92** | **0.86** | **0.00** | **0.25** | **0.06** | **0.31** | **0.01** | **0.06** | **0.07** | | **310.11** | | **0.01** | | **310.27** |

## 3.3 Site Prep/Clearing - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 6.78 | 54.76 | 22.37 | 0.07 | | 2.16 | 2.16 | | 2.16 | 2.16 | | 8,124.36 | | 0.60 | | 8,136.99 |
| **Total** | **6.78** | **54.76** | **22.37** | **0.07** | **0.00** | **2.16** | **2.16** | **0.00** | **2.16** | **2.16** | | **8,124.36** | | **0.60** | | **8,136.99** |

## 3.3 Site Prep/Clearing - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.28 | 0.30 | 2.55 | 0.00 | 0.37 | 0.01 | 0.38 | 0.01 | 0.01 | 0.02 | | 240.78 | | 0.02 | | 241.23 |
| **Total** | **0.28** | **0.30** | **2.55** | **0.00** | **0.37** | **0.01** | **0.38** | **0.01** | **0.01** | **0.02** | | **240.78** | | **0.02** | | **241.23** |

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 5.77 | 37.37 | 38.86 | 0.07 | | 2.29 | 2.29 | | 2.29 | 2.29 | 0.00 | 8,124.36 | | 0.60 | | 8,136.99 |
| **Total** | **5.77** | **37.37** | **38.86** | **0.07** | **0.00** | **2.29** | **2.29** | **0.00** | **2.29** | **2.29** | **0.00** | **8,124.36** | | **0.60** | | **8,136.99** |

## 3.3 Site Prep/Clearing - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.28 | 0.30 | 2.55 | 0.00 | 0.33 | 0.01 | 0.34 | 0.01 | 0.01 | 0.02 | | 240.78 | | 0.02 | | 241.23 |
| **Total** | **0.28** | **0.30** | **2.55** | **0.00** | **0.33** | **0.01** | **0.34** | **0.01** | **0.01** | **0.02** | | **240.78** | | **0.02** | | **241.23** |

## 3.4 Excavation/Fill - 2013

### 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 | | | | | 0.54 | 0.00 | 0.54 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 3.64 | 27.90 | 12.93 | 0.04 | | 1.31 | 1.31 | | 1.31 | 1.31 | | 3,850.14 | | 0.32 | | 3,856.94 |
| **Total** | **3.64** | **27.90** | **12.93** | **0.04** | **0.54** | **1.31** | **1.85** | **0.00** | **1.31** | **1.31** | | **3,850.14** | | **0.32** | | **3,856.94** |

## 3.4 Excavation/Fill - 2013

### 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 | 0.88 | 11.42 | 4.54 | 0.02 | 5.53 | 0.39 | 5.93 | 0.07 | 0.39 | 0.46 | | 1,910.63 | | 0.04 | | 1,911.52 |
| Vendor | 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 |
| Worker | 0.19 | 0.20 | 1.70 | 0.00 | 0.24 | 0.01 | 0.25 | 0.01 | 0.01 | 0.02 | | 160.52 | | 0.01 | | 160.82 |
| **Total** | **1.07** | **11.62** | **6.24** | **0.02** | **5.77** | **0.40** | **6.18** | **0.08** | **0.40** | **0.48** | | **2,071.15** | | **0.05** | | **2,072.34** |

### 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 | | | | | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.77 | 17.86 | 19.45 | 0.04 | | 1.18 | 1.18 | | 1.18 | 1.18 | 0.00 | 3,850.14 | | 0.32 | | 3,856.94 |
| **Total** | **2.77** | **17.86** | **19.45** | **0.04** | **0.20** | **1.18** | **1.38** | **0.00** | **1.18** | **1.18** | **0.00** | **3,850.14** | | **0.32** | | **3,856.94** |

## 3.4 Excavation/Fill - 2013

### 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 | 0.88 | 11.42 | 4.54 | 0.02 | 5.04 | 0.39 | 5.44 | 0.07 | 0.39 | 0.46 | | 1,910.63 | | 0.04 | | 1,911.52 |
| Vendor | 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 |
| Worker | 0.19 | 0.20 | 1.70 | 0.00 | 0.22 | 0.01 | 0.23 | 0.01 | 0.01 | 0.02 | | 160.52 | | 0.01 | | 160.82 |
| **Total** | **1.07** | **11.62** | **6.24** | **0.02** | **5.26** | **0.40** | **5.67** | **0.08** | **0.40** | **0.48** | | **2,071.15** | | **0.05** | | **2,072.34** |

## 3.5 Quarry Stone Installation - 2013

### 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 | | | | | 0.77 | 0.00 | 0.77 | 0.02 | 0.00 | 0.02 | | | | | | 0.00 |
| Off-Road | 3.11 | 22.99 | 11.93 | 0.03 | | 1.21 | 1.21 | | 1.21 | 1.21 | | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **3.11** | **22.99** | **11.93** | **0.03** | **0.77** | **1.21** | **1.98** | **0.02** | **1.21** | **1.23** | | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.5 Quarry Stone Installation - 2013

### 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 | 10.79 | 139.32 | 55.45 | 0.22 | 167.63 | 4.81 | 172.44 | 0.81 | 4.81 | 5.61 | | 23,317.87 | | 0.51 | | 23,328.62 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **10.95** | **139.49** | **56.86** | **0.22** | **167.83** | **4.82** | **172.65** | **0.82** | **4.82** | **5.62** | | **23,451.64** | | **0.52** | | **23,462.64** |

### 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 | | | | | 0.28 | 0.00 | 0.28 | 0.01 | 0.00 | 0.01 | | | | | | 0.00 |
| Off-Road | 2.19 | 14.04 | 16.03 | 0.03 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.00 | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **2.19** | **14.04** | **16.03** | **0.03** | **0.28** | **1.00** | **1.28** | **0.01** | **1.00** | **1.01** | **0.00** | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.5 Quarry Stone Installation - 2013

### 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 | 10.79 | 139.32 | 55.45 | 0.22 | 152.62 | 4.81 | 157.43 | 0.81 | 4.81 | 5.61 | | 23,317.87 | | 0.51 | | 23,328.62 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **10.95** | **139.49** | **56.86** | **0.22** | **152.81** | **4.82** | **157.62** | **0.82** | **4.82** | **5.62** | | **23,451.64** | | **0.52** | | **23,462.64** |

## 3.6 Soil Filled Quarry Stone Installation - 2013

### 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 | | | | | 0.76 | 0.00 | 0.76 | 0.02 | 0.00 | 0.02 | | | | | | 0.00 |
| Off-Road | 3.11 | 22.99 | 11.93 | 0.03 | | 1.21 | 1.21 | | 1.21 | 1.21 | | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **3.11** | **22.99** | **11.93** | **0.03** | **0.76** | **1.21** | **1.97** | **0.02** | **1.21** | **1.23** | | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.6 Soil Filled Quarry Stone Installation - 2013

### 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 | 10.53 | 135.91 | 54.10 | 0.22 | 72.39 | 4.69 | 77.08 | 0.79 | 4.69 | 5.48 | | 22,746.53 | | 0.50 | | 22,757.01 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **10.69** | **136.08** | **55.51** | **0.22** | **72.59** | **4.70** | **77.29** | **0.80** | **4.70** | **5.49** | | **22,880.30** | | **0.51** | | **22,891.03** |

### 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 | | | | | 0.28 | 0.00 | 0.28 | 0.01 | 0.00 | 0.01 | | | | | | 0.00 |
| Off-Road | 2.19 | 14.04 | 16.03 | 0.03 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.00 | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **2.19** | **14.04** | **16.03** | **0.03** | **0.28** | **1.00** | **1.28** | **0.01** | **1.00** | **1.01** | **0.00** | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.6 Soil Filled Quarry Stone Installation - 2013

### 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 | 10.53 | 135.91 | 54.10 | 0.22 | 65.95 | 4.69 | 70.64 | 0.79 | 4.69 | 5.48 | | 22,746.53 | | 0.50 | | 22,757.01 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **10.69** | **136.08** | **55.51** | **0.22** | **66.14** | **4.70** | **70.83** | **0.80** | **4.70** | **5.49** | | **22,880.30** | | **0.51** | | **22,891.03** |

## 3.7 Backfill/Soil Cover - 2013

### 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 | | | | | 0.75 | 0.00 | 0.75 | 0.01 | 0.00 | 0.01 | | | | | | 0.00 |
| Off-Road | 3.11 | 22.99 | 11.93 | 0.03 | | 1.21 | 1.21 | | 1.21 | 1.21 | | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **3.11** | **22.99** | **11.93** | **0.03** | **0.75** | **1.21** | **1.96** | **0.01** | **1.21** | **1.22** | | **3,000.41** | | **0.28** | | **3,006.24** |

## 3.7 Backfill/Soil Cover - 2013

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 9.15 | 118.17 | 47.03 | 0.19 | 57.28 | 4.08 | 61.36 | 0.68 | 4.08 | 4.76 | | 19,777.10 | | 0.43 | | 19,786.22 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **9.31** | **118.34** | **48.44** | **0.19** | **57.48** | **4.09** | **61.57** | **0.69** | **4.09** | **4.77** | | **19,910.87** | | **0.44** | | **19,920.24** |

### 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 | | | | | 0.28 | 0.00 | 0.28 | 0.01 | 0.00 | 0.01 | | | | | | 0.00 |
| Off-Road | 2.19 | 14.04 | 16.03 | 0.03 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.00 | 3,000.41 | | 0.28 | | 3,006.24 |
| **Total** | **2.19** | **14.04** | **16.03** | **0.03** | **0.28** | **1.00** | **1.28** | **0.01** | **1.00** | **1.01** | **0.00** | **3,000.41** | | **0.28** | | **3,006.24** |

### 3.7 Backfill/Soil Cover - 2013

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 9.15 | 118.17 | 47.03 | 0.19 | 52.19 | 4.08 | 56.27 | 0.68 | 4.08 | 4.76 | | 19,777.10 | | 0.43 | | 19,786.22 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **9.31** | **118.34** | **48.44** | **0.19** | **52.38** | **4.09** | **56.46** | **0.69** | **4.09** | **4.77** | | **19,910.87** | | **0.44** | | **19,920.24** |

## 4.0 Mobile Detail

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

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

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

# 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Sac River Riparian Sanctuary - Phase 1

**Butte County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Based on data provided by the project engineer. Assumes 9 acres of site preparation.

Construction Phase - Construction schedule based on activity durations provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - No offroad equipment required for this phase.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Trips and VMT - Worker trips increased, based on data provided by project engineer. Haul truck distance for quarry stone 50 miles/trip.

On-road Fugitive Dust - Based on model defaults.

Grading - Estimated amount of material imported provided by the project engineer.  Quarry silt content 1.0 derived from AP42.

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), watering of exposed areas (61%), replacement of ground cover on disturbed areas (5%), cleaning of track-out on paved roads (9%), limit onsite vehicle speed to 15 mph (SCAQMD, Table XI-D, 2007) Equipment mitigated to Tier 3 minimum.

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2013 | 0.36 | 3.97 | 1.70 | 0.01 | 2.18 | 0.15 | 2.33 | 0.02 | 0.15 | 0.17 | 0.00 | 591.43 | 591.43 | 0.02 | 0.00 | 591.85 |
| **Total** | **0.36** | **3.97** | **1.70** | **0.01** | **2.18** | **0.15** | **2.33** | **0.02** | **0.15** | **0.17** | **0.00** | **591.43** | **591.43** | **0.02** | **0.00** | **591.85** |

### 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 | | | | | |
| 2013 | 0.33 | 3.65 | 1.89 | 0.01 | 1.98 | 0.15 | 2.12 | 0.02 | 0.15 | 0.17 | 0.00 | 591.43 | 591.43 | 0.02 | 0.00 | 591.85 |
| **Total** | **0.33** | **3.65** | **1.89** | **0.01** | **1.98** | **0.15** | **2.12** | **0.02** | **0.15** | **0.17** | **0.00** | **591.43** | **591.43** | **0.02** | **0.00** | **591.85** |

## 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 | 0.00 | 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 |
| Energy | 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 |
| Mobile | 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 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

**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 | 0.00 | 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 |
| Energy | 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 |
| Mobile | 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 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Mobilization - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.42 | 0.42 | 0.00 | 0.00 | 0.42 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.42** | **0.42** | **0.00** | **0.00** | **0.42** |

## 3.2 Mobilization - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.42 | 0.42 | 0.00 | 0.00 | 0.42 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.42** | **0.42** | **0.00** | **0.00** | **0.42** |

## 3.3 Site Prep/Clearing - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.03 | 0.22 | 0.09 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 29.47 | 29.47 | 0.00 | 0.00 | 29.52 |
| **Total** | **0.03** | **0.22** | **0.09** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **29.47** | **29.47** | **0.00** | **0.00** | **29.52** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.91 | 0.91 | 0.00 | 0.00 | 0.92 |
| **Total** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.91** | **0.91** | **0.00** | **0.00** | **0.92** |

## 3.3 Site Prep/Clearing - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.15 | 0.16 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 29.47 | 29.47 | 0.00 | 0.00 | 29.52 |
| **Total** | **0.02** | **0.15** | **0.16** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **29.47** | **29.47** | **0.00** | **0.00** | **29.52** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.91 | 0.91 | 0.00 | 0.00 | 0.92 |
| **Total** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.91** | **0.91** | **0.00** | **0.00** | **0.92** |

## 3.4 Excavation/Fill - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.14 | 0.06 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 17.46 | 17.46 | 0.00 | 0.00 | 17.49 |
| **Total** | **0.02** | **0.14** | **0.06** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **17.46** | **17.46** | **0.00** | **0.00** | **17.49** |

### 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 | 0.00 | 0.06 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 8.68 | 8.68 | 0.00 | 0.00 | 8.68 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.76 | 0.76 | 0.00 | 0.00 | 0.76 |
| **Total** | **0.00** | **0.06** | **0.03** | **0.00** | **0.02** | **0.00** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **9.44** | **9.44** | **0.00** | **0.00** | **9.44** |

## 3.4 Excavation/Fill - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.01 | 0.09 | 0.10 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 17.46 | 17.46 | 0.00 | 0.00 | 17.49 |
| **Total** | **0.01** | **0.09** | **0.10** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **17.46** | **17.46** | **0.00** | **0.00** | **17.49** |

### 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 | 0.00 | 0.06 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 8.68 | 8.68 | 0.00 | 0.00 | 8.68 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.76 | 0.76 | 0.00 | 0.00 | 0.76 |
| **Total** | **0.00** | **0.06** | **0.03** | **0.00** | **0.02** | **0.00** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **9.44** | **9.44** | **0.00** | **0.00** | **9.44** |

## 3.5 Quarry Stone Installation - 2013

### 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 | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.04 | 0.29 | 0.15 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 34.01 | 34.01 | 0.00 | 0.00 | 34.08 |
| **Total** | **0.04** | **0.29** | **0.15** | **0.00** | **0.01** | **0.02** | **0.03** | **0.00** | **0.02** | **0.02** | **0.00** | **34.01** | **34.01** | **0.00** | **0.00** | **34.08** |

### 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 | 0.13 | 1.71 | 0.68 | 0.00 | 1.61 | 0.06 | 1.67 | 0.01 | 0.06 | 0.07 | 0.00 | 264.75 | 264.75 | 0.01 | 0.00 | 264.87 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.59 | 1.59 | 0.00 | 0.00 | 1.59 |
| **Total** | **0.13** | **1.71** | **0.70** | **0.00** | **1.61** | **0.06** | **1.67** | **0.01** | **0.06** | **0.07** | **0.00** | **266.34** | **266.34** | **0.01** | **0.00** | **266.46** |

## 3.5 Quarry Stone Installation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.03 | 0.18 | 0.20 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 34.01 | 34.01 | 0.00 | 0.00 | 34.08 |
| **Total** | **0.03** | **0.18** | **0.20** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **34.01** | **34.01** | **0.00** | **0.00** | **34.08** |

### 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 | 0.13 | 1.71 | 0.68 | 0.00 | 1.46 | 0.06 | 1.52 | 0.01 | 0.06 | 0.07 | 0.00 | 264.75 | 264.75 | 0.01 | 0.00 | 264.87 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.59 | 1.59 | 0.00 | 0.00 | 1.59 |
| **Total** | **0.13** | **1.71** | **0.70** | **0.00** | **1.46** | **0.06** | **1.52** | **0.01** | **0.06** | **0.07** | **0.00** | **266.34** | **266.34** | **0.01** | **0.00** | **266.46** |

## 3.6 Soil Filled Quarry Stone Installation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.13 | 0.07 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 14.97 | 14.97 | 0.00 | 0.00 | 15.00 |
| **Total** | **0.02** | **0.13** | **0.07** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **14.97** | **14.97** | **0.00** | **0.00** | **15.00** |

### 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 | 0.06 | 0.73 | 0.29 | 0.00 | 0.31 | 0.03 | 0.33 | 0.00 | 0.03 | 0.03 | 0.00 | 113.64 | 113.64 | 0.00 | 0.00 | 113.69 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.70 | 0.70 | 0.00 | 0.00 | 0.70 |
| **Total** | **0.06** | **0.73** | **0.30** | **0.00** | **0.31** | **0.03** | **0.33** | **0.00** | **0.03** | **0.03** | **0.00** | **114.34** | **114.34** | **0.00** | **0.00** | **114.39** |

## 3.6 Soil Filled Quarry Stone Installation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.01 | 0.08 | 0.09 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 14.97 | 14.97 | 0.00 | 0.00 | 15.00 |
| **Total** | **0.01** | **0.08** | **0.09** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **14.97** | **14.97** | **0.00** | **0.00** | **15.00** |

### 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 | 0.06 | 0.73 | 0.29 | 0.00 | 0.28 | 0.03 | 0.30 | 0.00 | 0.03 | 0.03 | 0.00 | 113.64 | 113.64 | 0.00 | 0.00 | 113.69 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.70 | 0.70 | 0.00 | 0.00 | 0.70 |
| **Total** | **0.06** | **0.73** | **0.30** | **0.00** | **0.28** | **0.03** | **0.30** | **0.00** | **0.03** | **0.03** | **0.00** | **114.34** | **114.34** | **0.00** | **0.00** | **114.39** |

## 3.7 Backfill/Soil Cover - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.11 | 0.06 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 13.61 | 13.61 | 0.00 | 0.00 | 13.63 |
| **Total** | **0.02** | **0.11** | **0.06** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **13.61** | **13.61** | **0.00** | **0.00** | **13.63** |

### 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 | 0.05 | 0.58 | 0.23 | 0.00 | 0.22 | 0.02 | 0.24 | 0.00 | 0.02 | 0.02 | 0.00 | 89.82 | 89.82 | 0.00 | 0.00 | 89.86 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.63 | 0.63 | 0.00 | 0.00 | 0.64 |
| **Total** | **0.05** | **0.58** | **0.24** | **0.00** | **0.22** | **0.02** | **0.24** | **0.00** | **0.02** | **0.02** | **0.00** | **90.45** | **90.45** | **0.00** | **0.00** | **90.50** |

### 3.7 Backfill/Soil Cover - 2013

**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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.01 | 0.07 | 0.08 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 13.61 | 13.61 | 0.00 | 0.00 | 13.63 |
| **Total** | **0.01** | **0.07** | **0.08** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **13.61** | **13.61** | **0.00** | **0.00** | **13.63** |

**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 | 0.05 | 0.58 | 0.23 | 0.00 | 0.20 | 0.02 | 0.22 | 0.00 | 0.02 | 0.02 | 0.00 | 89.82 | 89.82 | 0.00 | 0.00 | 89.86 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.63 | 0.63 | 0.00 | 0.00 | 0.64 |
| **Total** | **0.05** | **0.58** | **0.24** | **0.00** | **0.20** | **0.02** | **0.22** | **0.00** | **0.02** | **0.02** | **0.00** | **90.45** | **90.45** | **0.00** | **0.00** | **90.50** |

## 4.0 Mobile Detail

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.00 | 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 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

# 5.0 Energy Detail

## 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 | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electricity Unmitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NaturalGas Mitigated | 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 |
| NaturalGas Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Recreational | 0 | 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 |
| **Total** | | **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** |

## 5.2 Energy by Land Use - NaturalGas

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Recreational | 0 | 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 |
| **Total** | | **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** |

## 5.3 Energy by Land Use - Electricity

### Unmitigated

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

### 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.00 | 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 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 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 |
| **Total** | **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** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 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 |
| **Total** | **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** |

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

**Mitigated**

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

# 9.0 Vegetation

# Sac River Riparian Sanctuary - Phase II

**Butte County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Assumes 6 acres site prep.

Construction Phase - Construction schedule based on activity durations provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Off-road Equipment - No offroad equipment required for this phase.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Trips and VMT - Estimated haul truck distance for quarry stone 50 miles/trip based on distance to Parks Bar Quarry. Offhaul increased to 25 miles/trip.

On-road Fugitive Dust - Based on model defaults.

Grading - Estimated amount of material imported provided by the project engineer.  All other parameters based on model defaults.

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), watering of exposed areas (61%), replacement of ground cover on disturbed areas (5%), cleaning of track-out on paved roads (9%), limit onsite vehicle speed to 15 mph (SCAQMD, Table XI-D, 2007). Equipment Tier 3 minimum.

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 5.41 | 50.38 | 23.96 | 0.08 | 39.53 | 2.06 | 41.33 | 0.19 | 2.06 | 2.24 | 0.00 | 8,115.27 | 0.00 | 0.48 | 0.00 | 8,125.34 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | | | | | |
| 2013 | 4.55 | 43.02 | 30.51 | 0.08 | 35.97 | 1.99 | 37.60 | 0.18 | 1.99 | 2.17 | 0.00 | 8,115.27 | 0.00 | 0.48 | 0.00 | 8,125.34 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Mobilization - 2013

**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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **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** |

## 3.2 Mobilization - 2013

### 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 | 0.15 | 1.88 | 0.77 | 0.00 | 0.19 | 0.06 | 0.25 | 0.01 | 0.06 | 0.07 | | 311.65 | | 0.01 | | 311.80 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.15** | **1.88** | **0.77** | **0.00** | **0.19** | **0.06** | **0.25** | **0.01** | **0.06** | **0.07** | | **311.65** | | **0.01** | | **311.80** |

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 |
| **Total** | **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** |

## 3.2 Mobilization - 2013

### 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 | 0.15 | 1.88 | 0.77 | 0.00 | 0.17 | 0.06 | 0.23 | 0.01 | 0.06 | 0.07 | | 311.65 | | 0.01 | | 311.80 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.15** | **1.88** | **0.77** | **0.00** | **0.17** | **0.06** | **0.23** | **0.01** | **0.06** | **0.07** | | **311.65** | | **0.01** | | **311.80** |

## 3.3 Site Prep/Clearing - 2013

### 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 | | | | | 0.53 | 0.00 | 0.53 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 5.17 | 39.86 | 18.21 | 0.05 | | 1.85 | 1.85 | | 1.85 | 1.85 | | 5,577.83 | | 0.46 | | 5,587.48 |
| **Total** | **5.17** | **39.86** | **18.21** | **0.05** | **0.53** | **1.85** | **2.38** | **0.00** | **1.85** | **1.85** | | **5,577.83** | | **0.46** | | **5,587.48** |

## 3.3 Site Prep/Clearing - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.25 | 0.24 | 2.61 | 0.00 | 0.32 | 0.01 | 0.33 | 0.01 | 0.01 | 0.02 | | 248.52 | | 0.02 | | 248.94 |
| **Total** | **0.25** | **0.24** | **2.61** | **0.00** | **0.32** | **0.01** | **0.33** | **0.01** | **0.01** | **0.02** | | **248.52** | | **0.02** | | **248.94** |

### 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 | | | | | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 4.04 | 25.96 | 27.90 | 0.05 | | 1.71 | 1.71 | | 1.71 | 1.71 | 0.00 | 5,577.83 | | 0.46 | | 5,587.48 |
| **Total** | **4.04** | **25.96** | **27.90** | **0.05** | **0.20** | **1.71** | **1.91** | **0.00** | **1.71** | **1.71** | **0.00** | **5,577.83** | | **0.46** | | **5,587.48** |

## 3.3 Site Prep/Clearing - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.25 | 0.24 | 2.61 | 0.00 | 0.30 | 0.01 | 0.31 | 0.01 | 0.01 | 0.02 | | 248.52 | | 0.02 | | 248.94 |
| **Total** | **0.25** | **0.24** | **2.61** | **0.00** | **0.30** | **0.01** | **0.31** | **0.01** | **0.01** | **0.02** | | **248.52** | | **0.02** | | **248.94** |

## 3.4 Rock Removal - 2013

### 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 | | | | | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.91 | 21.62 | 12.62 | 0.03 | | 1.23 | 1.23 | | 1.23 | 1.23 | | 2,880.89 | | 0.26 | | 2,886.35 |
| **Total** | **2.91** | **21.62** | **12.62** | **0.03** | **0.02** | **1.23** | **1.25** | **0.00** | **1.23** | **1.23** | | **2,880.89** | | **0.26** | | **2,886.35** |

## 3.4 Rock Removal - 2013

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.35 | 16.89 | 6.92 | 0.03 | 39.30 | 0.57 | 39.87 | 0.09 | 0.57 | 0.66 | | 2,800.69 | | 0.06 | | 2,802.05 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **1.50** | **17.04** | **8.55** | **0.03** | **39.50** | **0.58** | **40.08** | **0.10** | **0.58** | **0.67** | | **2,956.01** | | **0.07** | | **2,957.64** |

### 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 | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.17 | 13.77 | 15.95 | 0.03 | | 1.05 | 1.05 | | 1.05 | 1.05 | 0.00 | 2,880.89 | | 0.26 | | 2,886.35 |
| **Total** | **2.17** | **13.77** | **15.95** | **0.03** | **0.01** | **1.05** | **1.06** | **0.00** | **1.05** | **1.05** | **0.00** | **2,880.89** | | **0.26** | | **2,886.35** |

## 3.4 Rock Removal - 2013

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.35 | 16.89 | 6.92 | 0.03 | 35.77 | 0.57 | 36.34 | 0.09 | 0.57 | 0.66 | | 2,800.69 | | 0.06 | | 2,802.05 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **1.50** | **17.04** | **8.55** | **0.03** | **35.96** | **0.58** | **36.53** | **0.10** | **0.58** | **0.67** | | **2,956.01** | | **0.07** | | **2,957.64** |

## 3.5 Excavation - 2013

### 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 | | | | | 0.03 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.17 | 16.72 | 8.83 | 0.02 | | 0.81 | 0.81 | | 0.81 | 0.81 | | 2,325.12 | | 0.19 | | 2,329.18 |
| **Total** | **2.17** | **16.72** | **8.83** | **0.02** | **0.03** | **0.81** | **0.84** | **0.00** | **0.81** | **0.81** | | **2,325.12** | | **0.19** | | **2,329.18** |

## 3.5 Excavation - 2013

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.51 | 18.85 | 7.72 | 0.03 | 9.73 | 0.64 | 10.37 | 0.11 | 0.64 | 0.74 | | 3,125.94 | | 0.07 | | 3,127.45 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **1.66** | **19.00** | **9.35** | **0.03** | **9.93** | **0.65** | **10.58** | **0.12** | **0.65** | **0.75** | | **3,281.26** | | **0.08** | | **3,283.04** |

### 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 | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.69 | 10.83 | 12.33 | 0.02 | | 0.76 | 0.76 | | 0.76 | 0.76 | 0.00 | 2,325.12 | | 0.19 | | 2,329.18 |
| **Total** | **1.69** | **10.83** | **12.33** | **0.02** | **0.01** | **0.76** | **0.77** | **0.00** | **0.76** | **0.76** | **0.00** | **2,325.12** | | **0.19** | | **2,329.18** |

## 3.5 Excavation - 2013

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.51 | 18.85 | 7.72 | 0.03 | 8.87 | 0.64 | 9.50 | 0.11 | 0.64 | 0.74 | | 3,125.94 | | 0.07 | | 3,127.45 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **1.66** | **19.00** | **9.35** | **0.03** | **9.06** | **0.65** | **9.69** | **0.12** | **0.65** | **0.75** | | **3,281.26** | | **0.08** | | **3,283.04** |

## 3.6 Quarry Stone Installation - 2013

### 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 | | | | | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.71 | 20.90 | 11.04 | 0.03 | | 1.02 | 1.02 | | 1.02 | 1.02 | | 2,906.40 | | 0.24 | | 2,911.47 |
| **Total** | **2.71** | **20.90** | **11.04** | **0.03** | **0.02** | **1.02** | **1.04** | **0.00** | **1.02** | **1.02** | | **2,906.40** | | **0.24** | | **2,911.47** |

## 3.6 Quarry Stone Installation - 2013

### 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 | 2.29 | 29.33 | 11.29 | 0.05 | 21.81 | 1.03 | 22.85 | 0.17 | 1.03 | 1.21 | | 5,053.54 | | 0.11 | | 5,055.82 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **2.44** | **29.48** | **12.92** | **0.05** | **22.01** | **1.04** | **23.06** | **0.18** | **1.04** | **1.22** | | **5,208.86** | | **0.12** | | **5,211.41** |

### 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 | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.11 | 13.54 | 15.41 | 0.03 | | 0.95 | 0.95 | | 0.95 | 0.95 | 0.00 | 2,906.40 | | 0.24 | | 2,911.47 |
| **Total** | **2.11** | **13.54** | **15.41** | **0.03** | **0.01** | **0.95** | **0.96** | **0.00** | **0.95** | **0.95** | **0.00** | **2,906.40** | | **0.24** | | **2,911.47** |

## 3.6 Quarry Stone Installation - 2013

### 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 | 2.29 | 29.33 | 11.29 | 0.05 | 19.87 | 1.03 | 20.90 | 0.17 | 1.03 | 1.21 | | 5,053.54 | | 0.11 | | 5,055.82 |
| Vendor | 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 |
| Worker | 0.15 | 0.15 | 1.63 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 155.32 | | 0.01 | | 155.59 |
| **Total** | **2.44** | **29.48** | **12.92** | **0.05** | **20.06** | **1.04** | **21.09** | **0.18** | **1.04** | **1.22** | | **5,208.86** | | **0.12** | | **5,211.41** |

## 3.7 Soil Cover - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 3.32 | 26.23 | 12.22 | 0.03 | | 1.15 | 1.15 | | 1.15 | 1.15 | | 3,774.93 | | 0.30 | | 3,781.13 |
| **Total** | **3.32** | **26.23** | **12.22** | **0.03** | **0.00** | **1.15** | **1.15** | **0.00** | **1.15** | **1.15** | | **3,774.93** | | **0.30** | | **3,781.13** |

## 3.7 Soil Cover - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.18 | 0.18 | 1.96 | 0.00 | 0.24 | 0.01 | 0.25 | 0.01 | 0.01 | 0.02 | | 186.39 | | 0.02 | | 186.71 |
| **Total** | **0.18** | **0.18** | **1.96** | **0.00** | **0.24** | **0.01** | **0.25** | **0.01** | **0.01** | **0.02** | | **186.39** | | **0.02** | | **186.71** |

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.71 | 17.47 | 18.96 | 0.03 | | 1.14 | 1.14 | | 1.14 | 1.14 | 0.00 | 3,774.93 | | 0.30 | | 3,781.13 |
| **Total** | **2.71** | **17.47** | **18.96** | **0.03** | **0.00** | **1.14** | **1.14** | **0.00** | **1.14** | **1.14** | **0.00** | **3,774.93** | | **0.30** | | **3,781.13** |

### 3.7 Soil Cover - 2013

**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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.18 | 0.18 | 1.96 | 0.00 | 0.22 | 0.01 | 0.23 | 0.01 | 0.01 | 0.02 | | 186.39 | | 0.02 | | 186.71 |
| **Total** | **0.18** | **0.18** | **1.96** | **0.00** | **0.22** | **0.01** | **0.23** | **0.01** | **0.01** | **0.02** | | **186.39** | | **0.02** | | **186.71** |

## 4.0 Mobile Detail

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

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

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

# 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Sac River Riparian Sanctuary - Phase II

**Butte County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Assumes 6 acres site prep.

Construction Phase - Construction schedule based on activity durations provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Off-road Equipment - No offroad equipment required for this phase.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Trips and VMT - Estimated haul truck distance for quarry stone 50 miles/trip based on distance to Parks Bar Quarry. Offhaul increased to 25 miles/trip.

On-road Fugitive Dust - Based on model defaults.

Grading - Estimated amount of material imported provided by the project engineer.  All other parameters based on model defaults.

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), watering of exposed areas (61%), replacement of ground cover on disturbed areas (5%), cleaning of track-out on paved roads (9%), limit onsite vehicle speed to 15 mph (SCAQMD, Table XI-D, 2007). Equipment Tier 3 minimum.

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 5.42 | 51.18 | 24.44 | 0.08 | 39.53 | 2.06 | 41.34 | 0.19 | 2.06 | 2.25 | 0.00 | 8,081.00 | 0.00 | 0.48 | 0.00 | 8,091.04 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | | | | | |
| 2013 | 4.59 | 43.83 | 30.16 | 0.08 | 35.97 | 2.00 | 37.60 | 0.18 | 2.00 | 2.18 | 0.00 | 8,081.00 | 0.00 | 0.48 | 0.00 | 8,091.04 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Mobilization - 2013

**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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **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** |

## 3.2 Mobilization - 2013

### 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 | 0.16 | 1.92 | 0.86 | 0.00 | 0.19 | 0.06 | 0.25 | 0.01 | 0.06 | 0.07 | | 310.11 | | 0.01 | | 310.27 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.16** | **1.92** | **0.86** | **0.00** | **0.19** | **0.06** | **0.25** | **0.01** | **0.06** | **0.07** | | **310.11** | | **0.01** | | **310.27** |

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 |
| **Total** | **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** |

## 3.2 Mobilization - 2013

### 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 | 0.16 | 1.92 | 0.86 | 0.00 | 0.17 | 0.06 | 0.23 | 0.01 | 0.06 | 0.07 | | 310.11 | | 0.01 | | 310.27 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.16** | **1.92** | **0.86** | **0.00** | **0.17** | **0.06** | **0.23** | **0.01** | **0.06** | **0.07** | | **310.11** | | **0.01** | | **310.27** |

## 3.3 Site Prep/Clearing - 2013

### 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 | | | | | 0.53 | 0.00 | 0.53 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 5.17 | 39.86 | 18.21 | 0.05 | | 1.85 | 1.85 | | 1.85 | 1.85 | | 5,577.83 | | 0.46 | | 5,587.48 |
| **Total** | **5.17** | **39.86** | **18.21** | **0.05** | **0.53** | **1.85** | **2.38** | **0.00** | **1.85** | **1.85** | | **5,577.83** | | **0.46** | | **5,587.48** |

## 3.3 Site Prep/Clearing - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.25 | 0.27 | 2.26 | 0.00 | 0.32 | 0.01 | 0.33 | 0.01 | 0.01 | 0.02 | | 214.03 | | 0.02 | | 214.43 |
| **Total** | **0.25** | **0.27** | **2.26** | **0.00** | **0.32** | **0.01** | **0.33** | **0.01** | **0.01** | **0.02** | | **214.03** | | **0.02** | | **214.43** |

### 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 | | | | | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 4.04 | 25.96 | 27.90 | 0.05 | | 1.71 | 1.71 | | 1.71 | 1.71 | 0.00 | 5,577.83 | | 0.46 | | 5,587.48 |
| **Total** | **4.04** | **25.96** | **27.90** | **0.05** | **0.20** | **1.71** | **1.91** | **0.00** | **1.71** | **1.71** | **0.00** | **5,577.83** | | **0.46** | | **5,587.48** |

## 3.3 Site Prep/Clearing - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.25 | 0.27 | 2.26 | 0.00 | 0.30 | 0.01 | 0.31 | 0.01 | 0.01 | 0.02 | | 214.03 | | 0.02 | | 214.43 |
| **Total** | **0.25** | **0.27** | **2.26** | **0.00** | **0.30** | **0.01** | **0.31** | **0.01** | **0.01** | **0.02** | | **214.03** | | **0.02** | | **214.43** |

## 3.4 Rock Removal - 2013

### 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 | | | | | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.91 | 21.62 | 12.62 | 0.03 | | 1.23 | 1.23 | | 1.23 | 1.23 | | 2,880.89 | | 0.26 | | 2,886.35 |
| **Total** | **2.91** | **21.62** | **12.62** | **0.03** | **0.02** | **1.23** | **1.25** | **0.00** | **1.23** | **1.23** | | **2,880.89** | | **0.26** | | **2,886.35** |

## 3.4 Rock Removal - 2013

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.40 | 17.25 | 7.69 | 0.03 | 39.30 | 0.58 | 39.88 | 0.09 | 0.58 | 0.67 | | 2,786.87 | | 0.07 | | 2,788.27 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **1.56** | **17.42** | **9.10** | **0.03** | **39.50** | **0.59** | **40.09** | **0.10** | **0.59** | **0.68** | | **2,920.64** | | **0.08** | | **2,922.29** |

### 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 | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.17 | 13.77 | 15.95 | 0.03 | | 1.05 | 1.05 | | 1.05 | 1.05 | 0.00 | 2,880.89 | | 0.26 | | 2,886.35 |
| **Total** | **2.17** | **13.77** | **15.95** | **0.03** | **0.01** | **1.05** | **1.06** | **0.00** | **1.05** | **1.05** | **0.00** | **2,880.89** | | **0.26** | | **2,886.35** |

## 3.4 Rock Removal - 2013

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.40 | 17.25 | 7.69 | 0.03 | 35.77 | 0.58 | 36.35 | 0.09 | 0.58 | 0.67 | | 2,786.87 | | 0.07 | | 2,788.27 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **1.56** | **17.42** | **9.10** | **0.03** | **35.96** | **0.59** | **36.54** | **0.10** | **0.59** | **0.68** | | **2,920.64** | | **0.08** | | **2,922.29** |

## 3.5 Excavation - 2013

### 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 | | | | | 0.03 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.17 | 16.72 | 8.83 | 0.02 | | 0.81 | 0.81 | | 0.81 | 0.81 | | 2,325.12 | | 0.19 | | 2,329.18 |
| **Total** | **2.17** | **16.72** | **8.83** | **0.02** | **0.03** | **0.81** | **0.84** | **0.00** | **0.81** | **0.81** | | **2,325.12** | | **0.19** | | **2,329.18** |

## 3.5 Excavation - 2013

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.56 | 19.25 | 8.59 | 0.03 | 9.73 | 0.64 | 10.38 | 0.11 | 0.64 | 0.75 | | 3,110.51 | | 0.07 | | 3,112.08 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **1.72** | **19.42** | **10.00** | **0.03** | **9.93** | **0.65** | **10.59** | **0.12** | **0.65** | **0.76** | | **3,244.28** | | **0.08** | | **3,246.10** |

### 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 | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.69 | 10.83 | 12.33 | 0.02 | | 0.76 | 0.76 | | 0.76 | 0.76 | 0.00 | 2,325.12 | | 0.19 | | 2,329.18 |
| **Total** | **1.69** | **10.83** | **12.33** | **0.02** | **0.01** | **0.76** | **0.77** | **0.00** | **0.76** | **0.76** | **0.00** | **2,325.12** | | **0.19** | | **2,329.18** |

## 3.5 Excavation - 2013

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.56 | 19.25 | 8.59 | 0.03 | 8.87 | 0.64 | 9.51 | 0.11 | 0.64 | 0.75 | | 3,110.51 | | 0.07 | | 3,112.08 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **1.72** | **19.42** | **10.00** | **0.03** | **9.06** | **0.65** | **9.70** | **0.12** | **0.65** | **0.76** | | **3,244.28** | | **0.08** | | **3,246.10** |

## 3.6 Quarry Stone Installation - 2013

### 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 | | | | | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.71 | 20.90 | 11.04 | 0.03 | | 1.02 | 1.02 | | 1.02 | 1.02 | | 2,906.40 | | 0.24 | | 2,911.47 |
| **Total** | **2.71** | **20.90** | **11.04** | **0.03** | **0.02** | **1.02** | **1.04** | **0.00** | **1.02** | **1.02** | | **2,906.40** | | **0.24** | | **2,911.47** |

## 3.6 Quarry Stone Installation - 2013

### 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 | 2.33 | 30.12 | 11.99 | 0.05 | 21.81 | 1.04 | 22.85 | 0.17 | 1.04 | 1.21 | | 5,040.82 | | 0.11 | | 5,043.15 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **2.49** | **30.29** | **13.40** | **0.05** | **22.01** | **1.05** | **23.06** | **0.18** | **1.05** | **1.22** | | **5,174.59** | | **0.12** | | **5,177.17** |

### 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 | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.11 | 13.54 | 15.41 | 0.03 | | 0.95 | 0.95 | | 0.95 | 0.95 | 0.00 | 2,906.40 | | 0.24 | | 2,911.47 |
| **Total** | **2.11** | **13.54** | **15.41** | **0.03** | **0.01** | **0.95** | **0.96** | **0.00** | **0.95** | **0.95** | **0.00** | **2,906.40** | | **0.24** | | **2,911.47** |

## 3.6 Quarry Stone Installation - 2013

### 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 | 2.33 | 30.12 | 11.99 | 0.05 | 19.87 | 1.04 | 20.90 | 0.17 | 1.04 | 1.21 | | 5,040.82 | | 0.11 | | 5,043.15 |
| Vendor | 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 |
| Worker | 0.16 | 0.17 | 1.41 | 0.00 | 0.19 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 133.77 | | 0.01 | | 134.02 |
| **Total** | **2.49** | **30.29** | **13.40** | **0.05** | **20.06** | **1.05** | **21.09** | **0.18** | **1.05** | **1.22** | | **5,174.59** | | **0.12** | | **5,177.17** |

## 3.7 Soil Cover - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 3.32 | 26.23 | 12.22 | 0.03 | | 1.15 | 1.15 | | 1.15 | 1.15 | | 3,774.93 | | 0.30 | | 3,781.13 |
| **Total** | **3.32** | **26.23** | **12.22** | **0.03** | **0.00** | **1.15** | **1.15** | **0.00** | **1.15** | **1.15** | | **3,774.93** | | **0.30** | | **3,781.13** |

## 3.7 Soil Cover - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.19 | 0.20 | 1.70 | 0.00 | 0.24 | 0.01 | 0.25 | 0.01 | 0.01 | 0.02 | | 160.52 | | 0.01 | | 160.82 |
| **Total** | **0.19** | **0.20** | **1.70** | **0.00** | **0.24** | **0.01** | **0.25** | **0.01** | **0.01** | **0.02** | | **160.52** | | **0.01** | | **160.82** |

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 2.71 | 17.47 | 18.96 | 0.03 | | 1.14 | 1.14 | | 1.14 | 1.14 | 0.00 | 3,774.93 | | 0.30 | | 3,781.13 |
| **Total** | **2.71** | **17.47** | **18.96** | **0.03** | **0.00** | **1.14** | **1.14** | **0.00** | **1.14** | **1.14** | **0.00** | **3,774.93** | | **0.30** | | **3,781.13** |

### 3.7 Soil Cover - 2013

**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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.19 | 0.20 | 1.70 | 0.00 | 0.22 | 0.01 | 0.23 | 0.01 | 0.01 | 0.02 | | 160.52 | | 0.01 | | 160.82 |
| **Total** | **0.19** | **0.20** | **1.70** | **0.00** | **0.22** | **0.01** | **0.23** | **0.01** | **0.01** | **0.02** | | **160.52** | | **0.01** | | **160.82** |

## 4.0 Mobile Detail

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

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

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

# 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Sac River Riparian Sanctuary - Phase II

**Butte County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Assumes 6 acres site prep.

Construction Phase - Construction schedule based on activity durations provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Off-road Equipment - No offroad equipment required for this phase.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on equipment use provided by the project engineer.

Trips and VMT - Estimated haul truck distance for quarry stone 50 miles/trip based on distance to Parks Bar Quarry. Offhaul increased to 25 miles/trip.

On-road Fugitive Dust - Based on model defaults.

Grading - Estimated amount of material imported provided by the project engineer.  All other parameters based on model defaults.

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), watering of exposed areas (61%), replacement of ground cover on disturbed areas (5%), cleaning of track-out on paved roads (9%), limit onsite vehicle speed to 15 mph (SCAQMD, Table XI-D, 2007). Equipment Tier 3 minimum.

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2013 | 0.20 | 1.74 | 0.92 | 0.00 | 0.93 | 0.08 | 1.01 | 0.00 | 0.08 | 0.08 | 0.00 | 240.82 | 240.82 | 0.01 | 0.00 | 241.11 |
| **Total** | **0.20** | **1.74** | **0.92** | **0.00** | **0.93** | **0.08** | **1.01** | **0.00** | **0.08** | **0.08** | **0.00** | **240.82** | **240.82** | **0.01** | **0.00** | **241.11** |

### 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 | | | | | |
| 2013 | 0.17 | 1.39 | 1.10 | 0.00 | 0.85 | 0.07 | 0.92 | 0.00 | 0.07 | 0.08 | 0.00 | 240.82 | 240.82 | 0.01 | 0.00 | 241.11 |
| **Total** | **0.17** | **1.39** | **1.10** | **0.00** | **0.85** | **0.07** | **0.92** | **0.00** | **0.07** | **0.08** | **0.00** | **240.82** | **240.82** | **0.01** | **0.00** | **241.11** |

## 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 | 0.00 | 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 |
| Energy | 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 |
| Mobile | 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 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

**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 | 0.00 | 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 |
| Energy | 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 |
| Mobile | 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 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Mobilization - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.28 | 0.00 | 0.00 | 0.28 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.28** | **0.28** | **0.00** | **0.00** | **0.28** |

## 3.2 Mobilization - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.28 | 0.00 | 0.00 | 0.28 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.28** | **0.28** | **0.00** | **0.00** | **0.28** |

## 3.3 Site Prep/Clearing - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.01 | 0.06 | 0.03 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 7.59 | 7.59 | 0.00 | 0.00 | 7.60 |
| **Total** | **0.01** | **0.06** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **7.59** | **7.59** | **0.00** | **0.00** | **7.60** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.00 | 0.31 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.30** | **0.30** | **0.00** | **0.00** | **0.31** |

## 3.3 Site Prep/Clearing - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.01 | 0.04 | 0.04 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 7.59 | 7.59 | 0.00 | 0.00 | 7.60 |
| **Total** | **0.01** | **0.04** | **0.04** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **7.59** | **7.59** | **0.00** | **0.00** | **7.60** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.00 | 0.31 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.30** | **0.30** | **0.00** | **0.00** | **0.31** |

## 3.4 Rock Removal - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.07 | 0.54 | 0.32 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 65.32 | 65.32 | 0.01 | 0.00 | 65.44 |
| **Total** | **0.07** | **0.54** | **0.32** | **0.00** | **0.00** | **0.03** | **0.03** | **0.00** | **0.03** | **0.03** | **0.00** | **65.32** | **65.32** | **0.01** | **0.00** | **65.44** |

### 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 | 0.03 | 0.42 | 0.18 | 0.00 | 0.75 | 0.01 | 0.77 | 0.00 | 0.01 | 0.02 | 0.00 | 63.36 | 63.36 | 0.00 | 0.00 | 63.39 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.17 | 3.17 | 0.00 | 0.00 | 3.18 |
| **Total** | **0.03** | **0.42** | **0.22** | **0.00** | **0.75** | **0.01** | **0.77** | **0.00** | **0.01** | **0.02** | **0.00** | **66.53** | **66.53** | **0.00** | **0.00** | **66.57** |

## 3.4 Rock Removal - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.05 | 0.34 | 0.40 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 65.32 | 65.32 | 0.01 | 0.00 | 65.44 |
| **Total** | **0.05** | **0.34** | **0.40** | **0.00** | **0.00** | **0.03** | **0.03** | **0.00** | **0.03** | **0.03** | **0.00** | **65.32** | **65.32** | **0.01** | **0.00** | **65.44** |

### 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 | 0.03 | 0.42 | 0.18 | 0.00 | 0.69 | 0.01 | 0.70 | 0.00 | 0.01 | 0.02 | 0.00 | 63.36 | 63.36 | 0.00 | 0.00 | 63.39 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.17 | 3.17 | 0.00 | 0.00 | 3.18 |
| **Total** | **0.03** | **0.42** | **0.22** | **0.00** | **0.69** | **0.01** | **0.70** | **0.00** | **0.01** | **0.02** | **0.00** | **66.53** | **66.53** | **0.00** | **0.00** | **66.57** |

## 3.5 Excavation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.01 | 0.09 | 0.05 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 11.60 | 11.60 | 0.00 | 0.00 | 11.62 |
| **Total** | **0.01** | **0.09** | **0.05** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **11.60** | **11.60** | **0.00** | **0.00** | **11.62** |

### 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 | 0.01 | 0.10 | 0.05 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 15.56 | 15.56 | 0.00 | 0.00 | 15.57 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.70 | 0.70 | 0.00 | 0.00 | 0.70 |
| **Total** | **0.01** | **0.10** | **0.06** | **0.00** | **0.04** | **0.00** | **0.04** | **0.00** | **0.00** | **0.00** | **0.00** | **16.26** | **16.26** | **0.00** | **0.00** | **16.27** |

## 3.5 Excavation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.01 | 0.06 | 0.07 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 11.60 | 11.60 | 0.00 | 0.00 | 11.62 |
| **Total** | **0.01** | **0.06** | **0.07** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **11.60** | **11.60** | **0.00** | **0.00** | **11.62** |

### 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 | 0.01 | 0.10 | 0.05 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 15.56 | 15.56 | 0.00 | 0.00 | 15.57 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.70 | 0.70 | 0.00 | 0.00 | 0.70 |
| **Total** | **0.01** | **0.10** | **0.06** | **0.00** | **0.04** | **0.00** | **0.04** | **0.00** | **0.00** | **0.00** | **0.00** | **16.26** | **16.26** | **0.00** | **0.00** | **16.27** |

## 3.6 Quarry Stone Installation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.16 | 0.08 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 19.77 | 19.77 | 0.00 | 0.00 | 19.80 |
| **Total** | **0.02** | **0.16** | **0.08** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **19.77** | **19.77** | **0.00** | **0.00** | **19.80** |

### 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 | 0.02 | 0.22 | 0.09 | 0.00 | 0.13 | 0.01 | 0.13 | 0.00 | 0.01 | 0.01 | 0.00 | 34.34 | 34.34 | 0.00 | 0.00 | 34.36 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.95 | 0.95 | 0.00 | 0.00 | 0.95 |
| **Total** | **0.02** | **0.22** | **0.10** | **0.00** | **0.13** | **0.01** | **0.13** | **0.00** | **0.01** | **0.01** | **0.00** | **35.29** | **35.29** | **0.00** | **0.00** | **35.31** |

## 3.6 Quarry Stone Installation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.10 | 0.12 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 19.77 | 19.77 | 0.00 | 0.00 | 19.80 |
| **Total** | **0.02** | **0.10** | **0.12** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **19.77** | **19.77** | **0.00** | **0.00** | **19.80** |

### 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 | 0.02 | 0.22 | 0.09 | 0.00 | 0.11 | 0.01 | 0.12 | 0.00 | 0.01 | 0.01 | 0.00 | 34.34 | 34.34 | 0.00 | 0.00 | 34.36 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.95 | 0.95 | 0.00 | 0.00 | 0.95 |
| **Total** | **0.02** | **0.22** | **0.10** | **0.00** | **0.11** | **0.01** | **0.12** | **0.00** | **0.01** | **0.01** | **0.00** | **35.29** | **35.29** | **0.00** | **0.00** | **35.31** |

## 3.7 Soil Cover - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.13 | 0.06 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 17.12 | 17.12 | 0.00 | 0.00 | 17.15 |
| **Total** | **0.02** | **0.13** | **0.06** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **17.12** | **17.12** | **0.00** | **0.00** | **17.15** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.76 | 0.76 | 0.00 | 0.00 | 0.76 |
| **Total** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.76** | **0.76** | **0.00** | **0.00** | **0.76** |

## 3.7 Soil Cover - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.01 | 0.09 | 0.09 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 17.12 | 17.12 | 0.00 | 0.00 | 17.15 |
| **Total** | **0.01** | **0.09** | **0.09** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | **0.00** | **17.12** | **17.12** | **0.00** | **0.00** | **17.15** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.76 | 0.76 | 0.00 | 0.00 | 0.76 |
| **Total** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.76** | **0.76** | **0.00** | **0.00** | **0.76** |

# 4.0 Mobile Detail

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.00 | 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 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

# 5.0 Energy Detail

## 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 | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electricity Unmitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NaturalGas Mitigated | 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 |
| NaturalGas Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Recreational | 0 | 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 |
| **Total** | | **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** |

## 5.2 Energy by Land Use - NaturalGas

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Recreational | 0 | 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 |
| **Total** | | **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** |

## 5.3 Energy by Land Use - Electricity

### Unmitigated

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

### 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.00 | 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 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 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 |
| **Total** | **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** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 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 |
| **Total** | **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** |

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

**Mitigated**

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

# 9.0 Vegetation

# Sac River Riparian Sanctuary - Phase III

**Butte County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Assumes 400 acres total.

Construction Phase - Assumes one day duration for each activity for max. daily emissions calc only.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on information provided by the project engineer.

Off-road Equipment - Based on information provided by the project engineer.

Off-road Equipment - Based on information provided by project engineer.

Trips and VMT - Irrigation system construction and planting assumes and additional 1 vendor and 1 haul truck/day, 25 mile trip distance.

On-road Fugitive Dust - Based on model defaults.

Grading -

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), exposed areas (61%), replacement of ground cover (5%), cleaning of track-out (9%), onsite vehicle speed 15 mph (SCAQMD, Table XI-D, 2007). Equipment Tier 3 min.

Off-road Equipment - Based on information provided by the project engineer.

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 2.47 | 16.52 | 12.00 | 0.02 | 0.44 | 1.00 | 1.44 | 0.01 | 1.00 | 1.01 | 0.00 | 2,240.39 | 0.00 | 0.21 | 0.00 | 2,244.91 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | | | | | |
| 2013 | 3.65 | 12.79 | 13.10 | 0.02 | 0.40 | 0.93 | 1.33 | 0.01 | 0.93 | 0.94 | 0.00 | 2,240.39 | 0.00 | 0.21 | 0.00 | 2,244.91 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Site Preparation - 2013

**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 | 1.06 | 6.29 | 5.17 | 0.01 | | 0.51 | 0.51 | | 0.51 | 0.51 | | 711.39 | | 0.09 | | 713.38 |
| **Total** | **1.06** | **6.29** | **5.17** | **0.01** | | **0.51** | **0.51** | | **0.51** | **0.51** | | **711.39** | | **0.09** | | **713.38** |

## 3.2 Site Preparation - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.12 | 0.12 | 1.31 | 0.00 | 0.16 | 0.00 | 0.17 | 0.01 | 0.00 | 0.01 | | 124.26 | | 0.01 | | 124.47 |
| **Total** | **0.12** | **0.12** | **1.31** | **0.00** | **0.16** | **0.00** | **0.17** | **0.01** | **0.00** | **0.01** | | **124.26** | | **0.01** | | **124.47** |

### 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 | 0.90 | 4.28 | 4.74 | 0.01 | | 0.42 | 0.42 | | 0.42 | 0.42 | 0.00 | 711.39 | | 0.09 | | 713.38 |
| **Total** | **0.90** | **4.28** | **4.74** | **0.01** | | **0.42** | **0.42** | | **0.42** | **0.42** | **0.00** | **711.39** | | **0.09** | | **713.38** |

## 3.2 Site Preparation - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.12 | 0.12 | 1.31 | 0.00 | 0.15 | 0.00 | 0.15 | 0.01 | 0.00 | 0.01 | | 124.26 | | 0.01 | | 124.47 |
| **Total** | **0.12** | **0.12** | **1.31** | **0.00** | **0.15** | **0.00** | **0.15** | **0.01** | **0.00** | **0.01** | | **124.26** | | **0.01** | | **124.47** |

## 3.3 Irrigation System Construction - 2013

### 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 | 2.25 | 15.30 | 10.18 | 0.02 | | 0.96 | 0.96 | | 0.96 | 0.96 | | 1,922.79 | | 0.20 | | 1,927.00 |
| **Total** | **2.25** | **15.30** | **10.18** | **0.02** | | **0.96** | **0.96** | | **0.96** | **0.96** | | **1,922.79** | | **0.20** | | **1,927.00** |

## 3.3 Irrigation System Construction - 2013

### 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 | 0.05 | 0.63 | 0.26 | 0.00 | 0.06 | 0.02 | 0.08 | 0.00 | 0.02 | 0.02 | | 103.88 | | 0.00 | | 103.93 |
| Vendor | 0.04 | 0.47 | 0.26 | 0.00 | 0.06 | 0.02 | 0.08 | 0.00 | 0.02 | 0.02 | | 89.46 | | 0.00 | | 89.50 |
| Worker | 0.12 | 0.12 | 1.31 | 0.00 | 0.32 | 0.00 | 0.32 | 0.01 | 0.00 | 0.01 | | 124.26 | | 0.01 | | 124.47 |
| **Total** | **0.21** | **1.22** | **1.83** | **0.00** | **0.44** | **0.04** | **0.48** | **0.01** | **0.04** | **0.05** | | **317.60** | | **0.01** | | **317.90** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.43 | 11.58 | 11.28 | 0.02 | | 0.89 | 0.89 | | 0.89 | 0.89 | 0.00 | 1,922.79 | | 0.20 | | 1,927.00 |
| **Total** | **3.43** | **11.58** | **11.28** | **0.02** | | **0.89** | **0.89** | | **0.89** | **0.89** | **0.00** | **1,922.79** | | **0.20** | | **1,927.00** |

## 3.3 Irrigation System Construction - 2013

### 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 | 0.05 | 0.63 | 0.26 | 0.00 | 0.06 | 0.02 | 0.08 | 0.00 | 0.02 | 0.02 | | 103.88 | | 0.00 | | 103.93 |
| Vendor | 0.04 | 0.47 | 0.26 | 0.00 | 0.06 | 0.02 | 0.07 | 0.00 | 0.02 | 0.02 | | 89.46 | | 0.00 | | 89.50 |
| Worker | 0.12 | 0.12 | 1.31 | 0.00 | 0.29 | 0.00 | 0.30 | 0.01 | 0.00 | 0.01 | | 124.26 | | 0.01 | | 124.47 |
| **Total** | **0.21** | **1.22** | **1.83** | **0.00** | **0.41** | **0.04** | **0.45** | **0.01** | **0.04** | **0.05** | | **317.60** | | **0.01** | | **317.90** |

## 3.4 Planting - 2013

### 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 | 1.03 | 5.76 | 4.91 | 0.01 | | 0.45 | 0.45 | | 0.45 | 0.45 | | 650.25 | | 0.09 | | 652.19 |
| **Total** | **1.03** | **5.76** | **4.91** | **0.01** | | **0.45** | **0.45** | | **0.45** | **0.45** | | **650.25** | | **0.09** | | **652.19** |

## 3.4 Planting - 2013

### 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 | 0.05 | 0.63 | 0.26 | 0.00 | 0.03 | 0.02 | 0.05 | 0.00 | 0.02 | 0.02 | | 103.88 | | 0.00 | | 103.93 |
| Vendor | 0.04 | 0.47 | 0.26 | 0.00 | 0.03 | 0.02 | 0.05 | 0.00 | 0.02 | 0.02 | | 89.46 | | 0.00 | | 89.50 |
| Worker | 0.12 | 0.12 | 1.31 | 0.00 | 0.16 | 0.00 | 0.17 | 0.01 | 0.00 | 0.01 | | 124.26 | | 0.01 | | 124.47 |
| **Total** | **0.21** | **1.22** | **1.83** | **0.00** | **0.22** | **0.04** | **0.27** | **0.01** | **0.04** | **0.05** | | **317.60** | | **0.01** | | **317.90** |

### 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 | 0.98 | 4.21 | 4.40 | 0.01 | | 0.40 | 0.40 | | 0.40 | 0.40 | 0.00 | 650.25 | | 0.09 | | 652.19 |
| **Total** | **0.98** | **4.21** | **4.40** | **0.01** | | **0.40** | **0.40** | | **0.40** | **0.40** | **0.00** | **650.25** | | **0.09** | | **652.19** |

## 3.4 Planting - 2013

### 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 | 0.05 | 0.63 | 0.26 | 0.00 | 0.03 | 0.02 | 0.05 | 0.00 | 0.02 | 0.02 | | 103.88 | | 0.00 | | 103.93 |
| Vendor | 0.04 | 0.47 | 0.26 | 0.00 | 0.03 | 0.02 | 0.04 | 0.00 | 0.02 | 0.02 | | 89.46 | | 0.00 | | 89.50 |
| Worker | 0.12 | 0.12 | 1.31 | 0.00 | 0.15 | 0.00 | 0.15 | 0.01 | 0.00 | 0.01 | | 124.26 | | 0.01 | | 124.47 |
| **Total** | **0.21** | **1.22** | **1.83** | **0.00** | **0.21** | **0.04** | **0.24** | **0.01** | **0.04** | **0.05** | | **317.60** | | **0.01** | | **317.90** |

## 3.5 Maintenance & Monitoring - 2013

### 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 | 1.03 | 5.76 | 4.91 | 0.01 | | 0.45 | 0.45 | | 0.45 | 0.45 | | 650.25 | | 0.09 | | 652.19 |
| **Total** | **1.03** | **5.76** | **4.91** | **0.01** | | **0.45** | **0.45** | | **0.45** | **0.45** | | **650.25** | | **0.09** | | **652.19** |

## 3.5 Maintenance & Monitoring - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.06 | 0.06 | 0.65 | 0.00 | 0.08 | 0.00 | 0.08 | 0.00 | 0.00 | 0.01 | | 62.13 | | 0.01 | | 62.24 |
| **Total** | **0.06** | **0.06** | **0.65** | **0.00** | **0.08** | **0.00** | **0.08** | **0.00** | **0.00** | **0.01** | | **62.13** | | **0.01** | | **62.24** |

### 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 | 0.98 | 4.21 | 4.40 | 0.01 | | 0.40 | 0.40 | | 0.40 | 0.40 | 0.00 | 650.25 | | 0.09 | | 652.19 |
| **Total** | **0.98** | **4.21** | **4.40** | **0.01** | | **0.40** | **0.40** | | **0.40** | **0.40** | **0.00** | **650.25** | | **0.09** | | **652.19** |

### 3.5 Maintenance & Monitoring - 2013

**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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.06 | 0.06 | 0.65 | 0.00 | 0.07 | 0.00 | 0.08 | 0.00 | 0.00 | 0.01 | | 62.13 | | 0.01 | | 62.24 |
| **Total** | **0.06** | **0.06** | **0.65** | **0.00** | **0.07** | **0.00** | **0.08** | **0.00** | **0.00** | **0.01** | | **62.13** | | **0.01** | | **62.24** |

## 4.0 Mobile Detail

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

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

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Sac River Riparian Sanctuary - Phase III

**Butte County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Assumes 400 acres total.

Construction Phase - Assumes one day duration for each activity for max. daily emissions calc only.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on information provided by the project engineer.

Off-road Equipment - Based on information provided by the project engineer.

Off-road Equipment - Based on information provided by project engineer.

Trips and VMT - Irrigation system construction and planting assumes and additional 1 vendor and 1 haul truck/day, 25 mile trip distance.

On-road Fugitive Dust - Based on model defaults.

Grading -

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), exposed areas (61%), replacement of ground cover (5%), cleaning of track-out (9%), onsite vehicle speed 15 mph (SCAQMD, Table XI-D, 2007). Equipment Tier 3 min.

Off-road Equipment - Based on information provided by the project engineer.

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 2.47 | 16.56 | 11.87 | 0.02 | 0.44 | 1.00 | 1.44 | 0.01 | 1.00 | 1.01 | 0.00 | 2,222.38 | 0.00 | 0.21 | 0.00 | 2,226.89 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | | | | | |
| 2013 | 3.66 | 12.83 | 12.98 | 0.02 | 0.40 | 0.93 | 1.33 | 0.01 | 0.93 | 0.94 | 0.00 | 2,222.38 | 0.00 | 0.21 | 0.00 | 2,226.89 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 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 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Site Preparation - 2013

**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 | 1.06 | 6.29 | 5.17 | 0.01 | | 0.51 | 0.51 | | 0.51 | 0.51 | | 711.39 | | 0.09 | | 713.38 |
| **Total** | **1.06** | **6.29** | **5.17** | **0.01** | | **0.51** | **0.51** | | **0.51** | **0.51** | | **711.39** | | **0.09** | | **713.38** |

## 3.2 Site Preparation - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.12 | 0.13 | 1.13 | 0.00 | 0.16 | 0.00 | 0.17 | 0.01 | 0.00 | 0.01 | | 107.02 | | 0.01 | | 107.21 |
| **Total** | **0.12** | **0.13** | **1.13** | **0.00** | **0.16** | **0.00** | **0.17** | **0.01** | **0.00** | **0.01** | | **107.02** | | **0.01** | | **107.21** |

### 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 | 0.90 | 4.28 | 4.74 | 0.01 | | 0.42 | 0.42 | | 0.42 | 0.42 | 0.00 | 711.39 | | 0.09 | | 713.38 |
| **Total** | **0.90** | **4.28** | **4.74** | **0.01** | | **0.42** | **0.42** | | **0.42** | **0.42** | **0.00** | **711.39** | | **0.09** | | **713.38** |

## 3.2 Site Preparation - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.12 | 0.13 | 1.13 | 0.00 | 0.15 | 0.00 | 0.15 | 0.01 | 0.00 | 0.01 | | 107.02 | | 0.01 | | 107.21 |
| **Total** | **0.12** | **0.13** | **1.13** | **0.00** | **0.15** | **0.00** | **0.15** | **0.01** | **0.00** | **0.01** | | **107.02** | | **0.01** | | **107.21** |

## 3.3 Irrigation System Construction - 2013

### 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 | 2.25 | 15.30 | 10.18 | 0.02 | | 0.96 | 0.96 | | 0.96 | 0.96 | | 1,922.79 | | 0.20 | | 1,927.00 |
| **Total** | **2.25** | **15.30** | **10.18** | **0.02** | | **0.96** | **0.96** | | **0.96** | **0.96** | | **1,922.79** | | **0.20** | | **1,927.00** |

## 3.3 Irrigation System Construction - 2013

### 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 | 0.05 | 0.64 | 0.29 | 0.00 | 0.06 | 0.02 | 0.08 | 0.00 | 0.02 | 0.02 | | 103.37 | | 0.00 | | 103.42 |
| Vendor | 0.05 | 0.49 | 0.28 | 0.00 | 0.06 | 0.02 | 0.08 | 0.00 | 0.02 | 0.02 | | 89.21 | | 0.00 | | 89.25 |
| Worker | 0.12 | 0.13 | 1.13 | 0.00 | 0.32 | 0.00 | 0.32 | 0.01 | 0.00 | 0.01 | | 107.02 | | 0.01 | | 107.21 |
| **Total** | **0.22** | **1.26** | **1.70** | **0.00** | **0.44** | **0.04** | **0.48** | **0.01** | **0.04** | **0.05** | | **299.60** | | **0.01** | | **299.88** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.43 | 11.58 | 11.28 | 0.02 | | 0.89 | 0.89 | | 0.89 | 0.89 | 0.00 | 1,922.79 | | 0.20 | | 1,927.00 |
| **Total** | **3.43** | **11.58** | **11.28** | **0.02** | | **0.89** | **0.89** | | **0.89** | **0.89** | **0.00** | **1,922.79** | | **0.20** | | **1,927.00** |

## 3.3 Irrigation System Construction - 2013

### 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 | 0.05 | 0.64 | 0.29 | 0.00 | 0.06 | 0.02 | 0.08 | 0.00 | 0.02 | 0.02 | | 103.37 | | 0.00 | | 103.42 |
| Vendor | 0.05 | 0.49 | 0.28 | 0.00 | 0.06 | 0.02 | 0.07 | 0.00 | 0.02 | 0.02 | | 89.21 | | 0.00 | | 89.25 |
| Worker | 0.12 | 0.13 | 1.13 | 0.00 | 0.29 | 0.00 | 0.30 | 0.01 | 0.00 | 0.01 | | 107.02 | | 0.01 | | 107.21 |
| **Total** | **0.22** | **1.26** | **1.70** | **0.00** | **0.41** | **0.04** | **0.45** | **0.01** | **0.04** | **0.05** | | **299.60** | | **0.01** | | **299.88** |

## 3.4 Planting - 2013

### 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 | 1.03 | 5.76 | 4.91 | 0.01 | | 0.45 | 0.45 | | 0.45 | 0.45 | | 650.25 | | 0.09 | | 652.19 |
| **Total** | **1.03** | **5.76** | **4.91** | **0.01** | | **0.45** | **0.45** | | **0.45** | **0.45** | | **650.25** | | **0.09** | | **652.19** |

## 3.4 Planting - 2013

### 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 | 0.05 | 0.64 | 0.29 | 0.00 | 0.03 | 0.02 | 0.05 | 0.00 | 0.02 | 0.02 | | 103.37 | | 0.00 | | 103.42 |
| Vendor | 0.05 | 0.49 | 0.28 | 0.00 | 0.03 | 0.02 | 0.05 | 0.00 | 0.02 | 0.02 | | 89.21 | | 0.00 | | 89.25 |
| Worker | 0.12 | 0.13 | 1.13 | 0.00 | 0.16 | 0.00 | 0.17 | 0.01 | 0.00 | 0.01 | | 107.02 | | 0.01 | | 107.21 |
| **Total** | **0.22** | **1.26** | **1.70** | **0.00** | **0.22** | **0.04** | **0.27** | **0.01** | **0.04** | **0.05** | | **299.60** | | **0.01** | | **299.88** |

### 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 | 0.98 | 4.21 | 4.40 | 0.01 | | 0.40 | 0.40 | | 0.40 | 0.40 | 0.00 | 650.25 | | 0.09 | | 652.19 |
| **Total** | **0.98** | **4.21** | **4.40** | **0.01** | | **0.40** | **0.40** | | **0.40** | **0.40** | **0.00** | **650.25** | | **0.09** | | **652.19** |

## 3.4 Planting - 2013

### 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 | 0.05 | 0.64 | 0.29 | 0.00 | 0.03 | 0.02 | 0.05 | 0.00 | 0.02 | 0.02 | | 103.37 | | 0.00 | | 103.42 |
| Vendor | 0.05 | 0.49 | 0.28 | 0.00 | 0.03 | 0.02 | 0.04 | 0.00 | 0.02 | 0.02 | | 89.21 | | 0.00 | | 89.25 |
| Worker | 0.12 | 0.13 | 1.13 | 0.00 | 0.15 | 0.00 | 0.15 | 0.01 | 0.00 | 0.01 | | 107.02 | | 0.01 | | 107.21 |
| **Total** | **0.22** | **1.26** | **1.70** | **0.00** | **0.21** | **0.04** | **0.24** | **0.01** | **0.04** | **0.05** | | **299.60** | | **0.01** | | **299.88** |

## 3.5 Maintenance & Monitoring - 2013

### 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 | 1.03 | 5.76 | 4.91 | 0.01 | | 0.45 | 0.45 | | 0.45 | 0.45 | | 650.25 | | 0.09 | | 652.19 |
| **Total** | **1.03** | **5.76** | **4.91** | **0.01** | | **0.45** | **0.45** | | **0.45** | **0.45** | | **650.25** | | **0.09** | | **652.19** |

## 3.5 Maintenance & Monitoring - 2013

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.06 | 0.07 | 0.57 | 0.00 | 0.08 | 0.00 | 0.08 | 0.00 | 0.00 | 0.01 | | 53.51 | | 0.00 | | 53.61 |
| **Total** | **0.06** | **0.07** | **0.57** | **0.00** | **0.08** | **0.00** | **0.08** | **0.00** | **0.00** | **0.01** | | **53.51** | | **0.00** | | **53.61** |

### 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 | 0.98 | 4.21 | 4.40 | 0.01 | | 0.40 | 0.40 | | 0.40 | 0.40 | 0.00 | 650.25 | | 0.09 | | 652.19 |
| **Total** | **0.98** | **4.21** | **4.40** | **0.01** | | **0.40** | **0.40** | | **0.40** | **0.40** | **0.00** | **650.25** | | **0.09** | | **652.19** |

### 3.5 Maintenance & Monitoring - 2013

**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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 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 |
| Worker | 0.06 | 0.07 | 0.57 | 0.00 | 0.07 | 0.00 | 0.08 | 0.00 | 0.00 | 0.01 | | 53.51 | | 0.00 | | 53.61 |
| **Total** | **0.06** | **0.07** | **0.57** | **0.00** | **0.07** | **0.00** | **0.08** | **0.00** | **0.00** | **0.01** | | **53.51** | | **0.00** | | **53.61** |

## 4.0 Mobile Detail

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

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

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| User Defined Recreational | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Sac River Riparian Sanctuary - Phase III (Annual Only)

**Butte County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| User Defined Recreational | 1 | User Defined Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Pacific Gas & Electric Company |
| **Climate Zone** | 3 | **Precipitation Freq (Days)** | 71 | | |

### 1.3 User Entered Comments

Project Characteristics - Operational emissions do not apply.

Land Use - Assumes 400 acres total.

Construction Phase - Based on duratiion estimates provided by the project engineer.

Off-road Equipment - Equipment use provided by the project engineer.

Off-road Equipment - Based on information provided by the project engineer.

Off-road Equipment - Based on information provided by the project engineer.

Off-road Equipment - Based on information provided by project engineer.

Trips and VMT - Irrigation system construction and planting assumes and additional 1 vendor and 1 haul truck/day, 25 mile trip distance.

On-road Fugitive Dust - Based on model defaults.

Grading -

Energy Use -

Construction Off-road Equipment Mitigation - Includes watering of unpaved roads (50%), exposed areas (61%), replacement of ground cover (5%), cleaning of track-out (9%), onsite vehicle speed 15 mph (SCAQMD, Table XI-D, 2007). Equipment Tier 3 min.

Off-road Equipment - Based on information provided by the project engineer.

## 2.0 Emissions Summary

### 2.1 Overall Construction

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2013 | 0.14 | 0.78 | 0.65 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 80.25 | 80.25 | 0.01 | 0.00 | 80.48 |
| 2014 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.65 | 2.65 | 0.00 | 0.00 | 2.66 |
| **Total** | **0.14** | **0.80** | **0.67** | **0.00** | **0.00** | **0.06** | **0.06** | **0.00** | **0.06** | **0.06** | **0.00** | **82.90** | **82.90** | **0.01** | **0.00** | **83.14** |

## 2.1 Overall Construction

### 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 | | | | | |
| 2013 | 0.14 | 0.57 | 0.59 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.05 | 0.05 | 0.00 | 80.25 | 80.25 | 0.01 | 0.00 | 80.48 |
| 2014 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.65 | 2.65 | 0.00 | 0.00 | 2.66 |
| **Total** | **0.14** | **0.59** | **0.61** | **0.00** | **0.00** | **0.05** | **0.05** | **0.00** | **0.05** | **0.05** | **0.00** | **82.90** | **82.90** | **0.01** | **0.00** | **83.14** |

## 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 | 0.00 | 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 |
| Energy | 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 |
| Mobile | 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 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

**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 | 0.00 | 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 |
| Energy | 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 |
| Mobile | 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 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **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

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Site Preparation - 2013

### 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 | 0.01 | 0.06 | 0.05 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 6.00 | 6.00 | 0.00 | 0.00 | 6.01 |
| **Total** | **0.01** | **0.06** | **0.05** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **6.00** | **6.00** | **0.00** | **0.00** | **6.01** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **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** |

## 3.2 Site Preparation - 2013

### 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 | 0.01 | 0.04 | 0.04 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 6.00 | 6.00 | 0.00 | 0.00 | 6.01 |
| **Total** | **0.01** | **0.04** | **0.04** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **6.00** | **6.00** | **0.00** | **0.00** | **6.01** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **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** |

## 3.3 Irrigation System Construction - 2013

### 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 | 0.01 | 0.09 | 0.06 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 8.85 | 8.85 | 0.00 | 0.00 | 8.87 |
| **Total** | **0.01** | **0.09** | **0.06** | **0.00** | | **0.01** | **0.01** | | **0.01** | **0.01** | **0.00** | **8.85** | **8.85** | **0.00** | **0.00** | **8.87** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| Vendor | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.89 | 0.00 | 0.00 | 0.89 |
| Worker | 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 |
| **Total** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.94** | **0.94** | **0.00** | **0.00** | **0.94** |

## 3.3 Irrigation System Construction - 2013

### 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 | 0.02 | 0.07 | 0.06 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 8.85 | 8.85 | 0.00 | 0.00 | 8.87 |
| **Total** | **0.02** | **0.07** | **0.06** | **0.00** | | **0.01** | **0.01** | | **0.01** | **0.01** | **0.00** | **8.85** | **8.85** | **0.00** | **0.00** | **8.87** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| Vendor | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.89 | 0.00 | 0.00 | 0.89 |
| Worker | 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 |
| **Total** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.94** | **0.94** | **0.00** | **0.00** | **0.94** |

## 3.4 Planting - 2013

### 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 | 0.01 | 0.05 | 0.04 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 5.31 | 5.31 | 0.00 | 0.00 | 5.32 |
| **Total** | **0.01** | **0.05** | **0.04** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **5.31** | **5.31** | **0.00** | **0.00** | **5.32** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.73 | 0.73 | 0.00 | 0.00 | 0.73 |
| Worker | 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 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.78** | **0.78** | **0.00** | **0.00** | **0.78** |

## 3.4 Planting - 2013

### 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 | 0.01 | 0.04 | 0.04 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 5.31 | 5.31 | 0.00 | 0.00 | 5.32 |
| **Total** | **0.01** | **0.04** | **0.04** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **5.31** | **5.31** | **0.00** | **0.00** | **5.32** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.73 | 0.73 | 0.00 | 0.00 | 0.73 |
| Worker | 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 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.78** | **0.78** | **0.00** | **0.00** | **0.78** |

## 3.5 Maintenance & Monitoring - 2013

### 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 | 0.10 | 0.57 | 0.49 | 0.00 | | 0.04 | 0.04 | | 0.04 | 0.04 | 0.00 | 58.38 | 58.38 | 0.01 | 0.00 | 58.56 |
| **Total** | **0.10** | **0.57** | **0.49** | **0.00** | | **0.04** | **0.04** | | **0.04** | **0.04** | **0.00** | **58.38** | **58.38** | **0.01** | **0.00** | **58.56** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **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** |

## 3.5 Maintenance & Monitoring - 2013

### 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 | 0.10 | 0.42 | 0.44 | 0.00 | | 0.04 | 0.04 | | 0.04 | 0.04 | 0.00 | 58.38 | 58.38 | 0.01 | 0.00 | 58.56 |
| **Total** | **0.10** | **0.42** | **0.44** | **0.00** | | **0.04** | **0.04** | | **0.04** | **0.04** | **0.00** | **58.38** | **58.38** | **0.01** | **0.00** | **58.56** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **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** |

## 3.5 Maintenance & Monitoring - 2014

### 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 | 0.00 | 0.02 | 0.02 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 2.65 | 2.65 | 0.00 | 0.00 | 2.66 |
| **Total** | **0.00** | **0.02** | **0.02** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **2.65** | **2.65** | **0.00** | **0.00** | **2.66** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **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** |

## 3.5 Maintenance & Monitoring - 2014

### 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 | 0.00 | 0.02 | 0.02 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 2.65 | 2.65 | 0.00 | 0.00 | 2.66 |
| **Total** | **0.00** | **0.02** | **0.02** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **2.65** | **2.65** | **0.00** | **0.00** | **2.66** |

### 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 | 0.00 | 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 |
| Vendor | 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 |
| Worker | 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 |
| **Total** | **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** |

# 4.0 Mobile Detail

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.00 | 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 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

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

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | 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 |
| User Defined Recreational | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 |

## 5.0 Energy Detail

### 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 | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electricity Unmitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NaturalGas Mitigated | 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 |
| NaturalGas Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Recreational | 0 | 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 |
| **Total** | | **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** |

## 5.2 Energy by Land Use - NaturalGas

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Recreational | 0 | 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 |
| **Total** | | **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** |

## 5.3 Energy by Land Use - Electricity

### Unmitigated

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

### 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.00 | 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 |
| Unmitigated | 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 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 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 |
| **Total** | **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** |

### 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 | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 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 |
| **Total** | **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** |

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

**Mitigated**

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| User Defined Recreational | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

# 9.0 Vegetation

# APPENDIX B

# GENERAL SUMMARY: OFFROAD EQUIPMENT EMISSIONS CONTROL

## Emission Tiers

Emission standards for offroad equipment are categorized by tier. Tier 1 standards were phased-in from 1996 to 2000, followed by Tier 2 standards from 2001 to 2006. Tier 3 standards were phased in from 2006 to 2008. Tier 4 standards are being phased in from 2008 through 2015. Tier 4 standards have been divided into "Interim" and "Final" standards. The Interim Tier 4 requirements allow manufacturers additional time to develop technologies sufficient to achieve the Tier 4 oxides of nitrogen ($NO_X$) requirements. Diesel-exhaust particulate (DPM) standards are the same for both Tier 4 Interim and Final. The APCD requires the increased use of offroad equipment meeting Tier 3 or Tier 4 requirements.

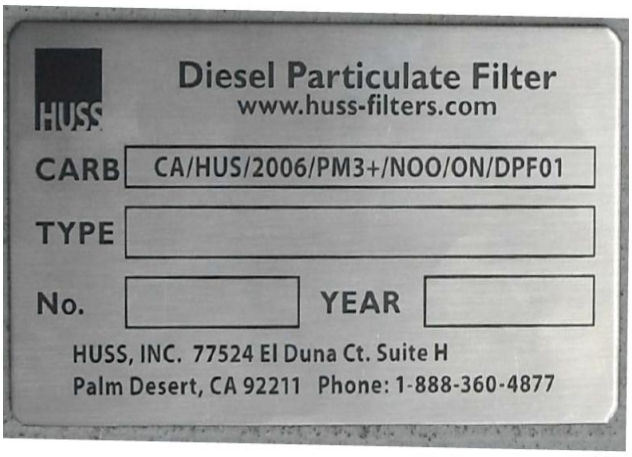
- **Tier 3**: Requires an approximate 40-percent reduction in oxides of NOx compared to Tier 2.
- **Tier 4 Interim**: Requires an approximate 90-percent reduction in DPM along with a 50 percent drop in NOx compared to Tier 3.
- **Tier 4 Final**: Will maintain levels of PM reductions, as identified for Tier 4 Interim. Requires an additional 80% reduction in $NO_X$ compared to Tier 4 Interim.

## Diesel-Exhaust Control & Best Available Control Technology (BACT)

BACT includes various strategies to reduce emissions, including (1) Removal from the fleet (i.e., retire, scrap, sell out of state); (2) Repower with a newer engine, or (3) Retrofit the engine with diesel emission control (DEC) devices.

To achieve compliance with regulatory requirements, various DECs have been developed, such as diesel particulate filters and oxidation catalysts. DECs are typically installed to reduce emissions of DPM, $NO_X$, or both. DECs may be available as aftermarket devices, or may already be installed by the manufacturer, particularly on newer Tier 3/4 equipment.

ARB Verification provides regulatory approval that a DEC meets the required emissions reductions and is approved for installation. DECs submitted to ARB for verification are equipment specific, based on the model year and engine family. DECs submitted for verification are required to meet extensive testing requirements, including equipment durability requirements. Verified DECs are categorized, by level, depending on their verified emissions reductions, and are typically developed by or in coordination with the equipment manufacturer. DECs may not be available for all types of offroad equipment. To ensure offroad equipment compatibility, it is recommended that retrofit devices meet manufacturer recommendations and be ARB verified. The equipment manufacturer websites often offer additional information regarding available retrofit DECs for specific equipment (refer to Page 2). ARB-verified DECs can be viewed at: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm




## What Should Be Identified?

In addition to the identification of the engine tier level (e.g., Tier 2, 3, or 4), any installed DECs should also be identified so that any additional emissions reductions associated with the DEC can be accounted for in the emissions reports. Because DECs are designed to meet varying levels of reductions, the verification level (Level 1, 2 or 3) should be identified, where possible.

## Where Do I Find DEC Info?

ARB-verified DEC information can be found on labels affixed to the equipment engine and the DEC device. The ARB and the equipment manufacturer also provide additional information.

# Additional Information:

**Offroad Equipment**
http://www.cat.com/cda/layout?x=7&m=102230&id=333152

**Stationary Equipment**
http://www.cat.com/engines/emissions-solutions/stationary-engine-solutions

**Offroad Equipment:**
http://www.deere.com/wps/dcom/en_US/services_and_support/emissions_information/emissions_info.page?

**Diesel Engine Retrofit Information Online Search:**
http://www.deere.com/wps/dcom/en_US/services_and_support/emissions_information/diesel_engine_retrofit/diesel_engine_retrofit_device_lookup_tool/diesel_retrofit_tool.page?

**Diesel Emission Control Verification Program:**
http://www.arb.ca.gov/diesel/verdev/verdev.htm

**Verified DECs:**
http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

**Offroad Diesel Vehicle Regulation:**
http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm