# Appendix F2 Air Quality Data for Alternative 3

# Beach and Ellis Alternative 3

**Orange County, Winter**

## 1.0 Project

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Parking Structure | 463 | Space |
| Apartments Mid Rise | 274 | Dwelling Unit |
| Strip Mall | 8.5 | 1000sqft |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics - SCE Emission Factors updated to reflect most recent (2007) eGrid numbers.
Land Use - 2.74 equals total lot acreage
Construction Phase - Construction Schedule provided by project applicant
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Demolition -
Grading - 2.74 equals total site acreage
Architectural Coating - rates indicate a 10% decrease in VOC content for residential and 125 for non-residential
Woodstoves - No fireplaces
Solid Waste - Landfill has gas collection
Construction Off-road Equipment Mitigation -
Mobile Land Use Mitigation -
Area Mitigation - 10% reduction in VOCs
Water Mitigation -
Waste Mitigation -

# 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 | | | | | |
| 2016 | 8.28 | 73.60 | 49.16 | 0.13 | 126.72 | 3.09 | 129.81 | 3.66 | 3.09 | 6.75 | 0.00 | 13,536.90 | 0.00 | 0.57 | 0.00 | 13,548.90 |
| 2017 | 170.83 | 28.66 | 35.70 | 0.08 | 4.72 | 1.78 | 6.26 | 0.20 | 1.78 | 1.82 | 0.00 | 7,652.80 | 0.00 | 0.49 | 0.00 | 7,662.99 |
| **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 | | | | | |
| 2016 | 8.28 | 73.60 | 49.16 | 0.13 | 72.34 | 3.09 | 75.43 | 1.57 | 3.09 | 4.65 | 0.00 | 13,536.90 | 0.00 | 0.57 | 0.00 | 13,548.90 |
| 2017 | 170.83 | 28.66 | 35.70 | 0.08 | 2.82 | 1.78 | 4.36 | 0.20 | 1.78 | 1.82 | 0.00 | 7,652.80 | 0.00 | 0.49 | 0.00 | 7,662.99 |
| **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 | 40.58 | 1.60 | 113.68 | 0.22 | | 0.00 | 14.61 | | 0.00 | 14.61 | 1,933.54 | 4,973.20 | | 7.69 | 0.12 | 7,105.01 |
| Energy | 0.10 | 0.83 | 0.36 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,063.05 | | 0.02 | 0.02 | 1,069.52 |
| Mobile | 28.40 | 17.10 | 83.88 | 0.20 | 24.48 | 1.03 | 25.50 | 0.34 | 0.90 | 1.24 | | 17,423.04 | | 0.74 | | 17,438.63 |
| **Total** | **69.08** | **19.53** | **197.92** | **0.43** | **24.48** | **1.03** | **40.18** | **0.34** | **0.90** | **15.92** | **1,933.54** | **23,459.29** | | **8.45** | **0.14** | **25,613.16** |

### 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 | 10.78 | 0.27 | 22.99 | 0.00 | | 0.00 | 0.13 | | 0.00 | 0.13 | 0.00 | 41.20 | | 0.04 | 0.00 | 42.05 |
| Energy | 0.10 | 0.83 | 0.36 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,063.05 | | 0.02 | 0.02 | 1,069.52 |
| Mobile | 20.13 | 12.53 | 62.35 | 0.14 | 16.52 | 0.71 | 17.23 | 0.23 | 0.62 | 0.85 | | 11,895.20 | | 0.52 | | 11,906.20 |
| **Total** | **31.01** | **13.63** | **85.70** | **0.15** | **16.52** | **0.71** | **17.43** | **0.23** | **0.62** | **1.05** | **0.00** | **12,999.45** | | **0.58** | **0.02** | **13,017.77** |

## 3.0 Construction Detail

### 3.1 Mitigation Measures Construction

Use Soil Stabilizer
Replace Ground Cover
Water Exposed Area
Water Unpaved Roads
Reduce Vehicle Speed on Unpaved Roads
Clean Paved Roads

### 3.2 Demolition - 2016

**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 | | | | | 0.64 | 0.00 | 0.64 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 4.13 | 30.94 | 21.38 | 0.04 | | 1.68 | 1.68 | | 1.68 | 1.68 | | 3,946.47 | | 0.37 | | 3,954.23 |
| **Total** | **4.13** | **30.94** | **21.38** | **0.04** | **0.64** | **1.68** | **2.32** | **0.00** | **1.68** | **1.68** | | **3,946.47** | | **0.37** | | **3,954.23** |

**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 | 0.11 | 1.10 | 0.72 | 0.00 | 2.94 | 0.04 | 2.98 | 0.01 | 0.04 | 0.05 | | 240.00 | | 0.01 | | 240.11 |
| 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 | 0.07 | 0.07 | 0.64 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 137.87 | | 0.01 | | 138.01 |
| **Total** | **0.18** | **1.17** | **1.36** | **0.00** | **3.14** | **0.05** | **3.19** | **0.02** | **0.05** | **0.06** | | **377.87** | | **0.02** | | **378.12** |

**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 | | | | | 0.24 | 0.00 | 0.24 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 4.13 | 30.94 | 21.38 | 0.04 | | 1.68 | 1.68 | | 1.68 | 1.68 | 0.00 | 3,946.47 | | 0.37 | | 3,954.23 |
| **Total** | **4.13** | **30.94** | **21.38** | **0.04** | **0.24** | **1.68** | **1.92** | **0.00** | **1.68** | **1.68** | **0.00** | **3,946.47** | | **0.37** | | **3,954.23** |

### 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 | 0.11 | 1.10 | 0.72 | 0.00 | 1.71 | 0.04 | 1.75 | 0.01 | 0.04 | 0.05 | | 240.00 | | 0.01 | | 240.11 |
| 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 | 0.07 | 0.07 | 0.64 | 0.00 | 0.12 | 0.01 | 0.13 | 0.01 | 0.01 | 0.01 | | 137.87 | | 0.01 | | 138.01 |
| **Total** | **0.18** | **1.17** | **1.36** | **0.00** | **1.83** | **0.05** | **1.88** | **0.02** | **0.05** | **0.06** | | **377.87** | | **0.02** | | **378.12** |

## 3.3 Mass Site Grading - 2016

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.20 | 0.00 | 6.20 | 3.33 | 0.00 | 3.33 | | | | | | 0.00 |
| Off-Road | 3.93 | 29.69 | 19.99 | 0.04 | | 1.46 | 1.46 | | 1.46 | 1.46 | | 3,827.58 | | 0.35 | | 3,834.99 |
| **Total** | **3.93** | **29.69** | **19.99** | **0.04** | **6.20** | **1.46** | **7.66** | **3.33** | **1.46** | **4.79** | | **3,827.58** | | **0.35** | | **3,834.99** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 4.30 | 43.86 | 28.67 | 0.09 | 120.36 | 1.62 | 121.99 | 0.33 | 1.62 | 1.95 | | 9,603.27 | | 0.21 | | 9,607.75 |
| 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 | 0.05 | 0.05 | 0.49 | 0.00 | 0.15 | 0.00 | 0.16 | 0.01 | 0.00 | 0.01 | | 106.05 | | 0.01 | | 106.16 |
| **Total** | **4.35** | **43.91** | **29.16** | **0.09** | **120.51** | **1.62** | **122.15** | **0.34** | **1.62** | **1.96** | | **9,709.32** | | **0.22** | | **9,713.91** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 2.30 | 0.00 | 2.30 | 1.23 | 0.00 | 1.23 | | | | | | 0.00 |
| Off-Road | 3.93 | 29.69 | 19.99 | 0.04 | | 1.46 | 1.46 | | 1.46 | 1.46 | 0.00 | 3,827.58 | | 0.35 | | 3,834.99 |
| **Total** | **3.93** | **29.69** | **19.99** | **0.04** | **2.30** | **1.46** | **3.76** | **1.23** | **1.46** | **2.69** | **0.00** | **3,827.58** | | **0.35** | | **3,834.99** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 4.30 | 43.86 | 28.67 | 0.09 | 69.95 | 1.62 | 71.57 | 0.33 | 1.62 | 1.95 | | 9,603.27 | | 0.21 | | 9,607.75 |
| 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 | 0.05 | 0.05 | 0.49 | 0.00 | 0.09 | 0.00 | 0.10 | 0.01 | 0.00 | 0.01 | | 106.05 | | 0.01 | | 106.16 |
| **Total** | **4.35** | **43.91** | **29.16** | **0.09** | **70.04** | **1.62** | **71.67** | **0.34** | **1.62** | **1.96** | | **9,709.32** | | **0.22** | | **9,713.91** |

## 3.4 Fine Site Grading - 2016

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.31 | 0.00 | 6.31 | 3.31 | 0.00 | 3.31 | | | | | | 0.00 |
| Off-Road | 3.93 | 29.69 | 19.99 | 0.04 | | 1.46 | 1.46 | | 1.46 | 1.46 | | 3,827.58 | | 0.35 | | 3,834.99 |
| **Total** | **3.93** | **29.69** | **19.99** | **0.04** | **6.31** | **1.46** | **7.77** | **3.31** | **1.46** | **4.77** | | **3,827.58** | | **0.35** | | **3,834.99** |

### 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 | 0.05 | 0.05 | 0.49 | 0.00 | 0.15 | 0.00 | 0.16 | 0.01 | 0.00 | 0.01 | | 106.05 | | 0.01 | | 106.16 |
| **Total** | **0.05** | **0.05** | **0.49** | **0.00** | **0.15** | **0.00** | **0.16** | **0.01** | **0.00** | **0.01** | | **106.05** | | **0.01** | | **106.16** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 2.34 | 0.00 | 2.34 | 1.23 | 0.00 | 1.23 | | | | | | 0.00 |
| Off-Road | 3.93 | 29.69 | 19.99 | 0.04 | | 1.46 | 1.46 | | 1.46 | 1.46 | 0.00 | 3,827.58 | | 0.35 | | 3,834.99 |
| **Total** | **3.93** | **29.69** | **19.99** | **0.04** | **2.34** | **1.46** | **3.80** | **1.23** | **1.46** | **2.69** | **0.00** | **3,827.58** | | **0.35** | | **3,834.99** |

**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 | 0.05 | 0.05 | 0.49 | 0.00 | 0.09 | 0.00 | 0.10 | 0.01 | 0.00 | 0.01 | | 106.05 | | 0.01 | | 106.16 |
| **Total** | **0.05** | **0.05** | **0.49** | **0.00** | **0.09** | **0.00** | **0.10** | **0.01** | **0.00** | **0.01** | | **106.05** | | **0.01** | | **106.16** |

## 3.5 Trenching - 2016

**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 | 0.00 | 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** |

**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 | 0.00 | 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** |

## 3.6 Building Construction - 2016

**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 | 3.96 | 22.58 | 18.51 | 0.04 | | 1.35 | 1.35 | | 1.35 | 1.35 | | 3,233.11 | | 0.36 | | 3,240.57 |
| **Total** | **3.96** | **22.58** | **18.51** | **0.04** | | **1.35** | **1.35** | | **1.35** | **1.35** | | **3,233.11** | | **0.36** | | **3,240.57** |

### 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 | 0.68 | 7.17 | 5.31 | 0.02 | 0.55 | 0.22 | 0.77 | 0.04 | 0.22 | 0.26 | | 1,593.43 | | 0.03 | | 1,594.13 |
| Worker | 1.42 | 1.39 | 13.46 | 0.03 | 4.17 | 0.13 | 4.31 | 0.16 | 0.13 | 0.29 | | 2,884.67 | | 0.14 | | 2,887.64 |
| **Total** | **2.10** | **8.56** | **18.77** | **0.05** | **4.72** | **0.35** | **5.08** | **0.20** | **0.35** | **0.55** | | **4,478.10** | | **0.17** | | **4,481.77** |

### 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 | 3.96 | 22.58 | 18.51 | 0.04 | | 1.35 | 1.35 | | 1.35 | 1.35 | 0.00 | 3,233.11 | | 0.36 | | 3,240.57 |
| **Total** | **3.96** | **22.58** | **18.51** | **0.04** | | **1.35** | **1.35** | | **1.35** | **1.35** | **0.00** | **3,233.11** | | **0.36** | | **3,240.57** |

### 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 | 0.68 | 7.17 | 5.31 | 0.02 | 0.34 | 0.22 | 0.56 | 0.04 | 0.22 | 0.26 | | 1,593.43 | | 0.03 | | 1,594.13 |
| Worker | 1.42 | 1.39 | 13.46 | 0.03 | 2.49 | 0.13 | 2.62 | 0.16 | 0.13 | 0.29 | | 2,884.67 | | 0.14 | | 2,887.64 |
| **Total** | **2.10** | **8.56** | **18.77** | **0.05** | **2.83** | **0.35** | **3.18** | **0.20** | **0.35** | **0.55** | | **4,478.10** | | **0.17** | | **4,481.77** |

## 3.6 Building Construction - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.61 | 20.78 | 18.26 | 0.04 | | 1.20 | 1.20 | | 1.20 | 1.20 | | 3,233.11 | | 0.32 | | 3,239.85 |
| **Total** | **3.61** | **20.78** | **18.26** | **0.04** | | **1.20** | **1.20** | | **1.20** | **1.20** | | **3,233.11** | | **0.32** | | **3,239.85** |

### 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 | 0.63 | 6.61 | 4.99 | 0.02 | 0.55 | 0.20 | 0.75 | 0.04 | 0.20 | 0.24 | | 1,597.57 | | 0.03 | | 1,598.22 |
| Worker | 1.35 | 1.28 | 12.45 | 0.03 | 4.17 | 0.13 | 4.31 | 0.16 | 0.13 | 0.29 | | 2,822.13 | | 0.13 | | 2,824.91 |
| **Total** | **1.98** | **7.89** | **17.44** | **0.05** | **4.72** | **0.33** | **5.06** | **0.20** | **0.33** | **0.53** | | **4,419.70** | | **0.16** | | **4,423.13** |

### 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 | 3.61 | 20.78 | 18.26 | 0.04 | | 1.20 | 1.20 | | 1.20 | 1.20 | 0.00 | 3,233.11 | | 0.32 | | 3,239.85 |
| **Total** | **3.61** | **20.78** | **18.26** | **0.04** | | **1.20** | **1.20** | | **1.20** | **1.20** | **0.00** | **3,233.11** | | **0.32** | | **3,239.85** |

### 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 | 0.63 | 6.61 | 4.99 | 0.02 | 0.34 | 0.20 | 0.54 | 0.04 | 0.20 | 0.24 | | 1,597.57 | | 0.03 | | 1,598.22 |
| Worker | 1.35 | 1.28 | 12.45 | 0.03 | 2.49 | 0.13 | 2.62 | 0.16 | 0.13 | 0.29 | | 2,822.13 | | 0.13 | | 2,824.91 |
| **Total** | **1.98** | **7.89** | **17.44** | **0.05** | **2.83** | **0.33** | **3.16** | **0.20** | **0.33** | **0.53** | | **4,419.70** | | **0.16** | | **4,423.13** |

## 3.7 Paving - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.17 | 19.94 | 16.32 | 0.03 | | 1.57 | 1.57 | | 1.57 | 1.57 | | 2,393.42 | | 0.29 | | 2,399.42 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.17** | **19.94** | **16.32** | **0.03** | | **1.57** | **1.57** | | **1.57** | **1.57** | | **2,393.42** | | **0.29** | | **2,399.42** |

### 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 | 0.07 | 0.07 | 0.69 | 0.00 | 0.23 | 0.01 | 0.24 | 0.01 | 0.01 | 0.02 | | 155.63 | | 0.01 | | 155.79 |
| **Total** | **0.07** | **0.07** | **0.69** | **0.00** | **0.23** | **0.01** | **0.24** | **0.01** | **0.01** | **0.02** | | **155.63** | | **0.01** | | **155.79** |

### 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 | 3.17 | 19.94 | 16.32 | 0.03 | | 1.57 | 1.57 | | 1.57 | 1.57 | 0.00 | 2,393.42 | | 0.29 | | 2,399.42 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.17** | **19.94** | **16.32** | **0.03** | | **1.57** | **1.57** | | **1.57** | **1.57** | **0.00** | **2,393.42** | | **0.29** | | **2,399.42** |

### 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 | 0.07 | 0.07 | 0.69 | 0.00 | 0.14 | 0.01 | 0.14 | 0.01 | 0.01 | 0.02 | | 155.63 | | 0.01 | | 155.79 |
| **Total** | **0.07** | **0.07** | **0.69** | **0.00** | **0.14** | **0.01** | **0.14** | **0.01** | **0.01** | **0.02** | | **155.63** | | **0.01** | | **155.79** |

## 3.8 Architectural Coating - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 166.98 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.33 | 2.18 | 1.87 | 0.00 | | 0.17 | 0.17 | | 0.17 | 0.17 | | 281.19 | | 0.03 | | 281.81 |
| **Total** | **167.31** | **2.18** | **1.87** | **0.00** | | **0.17** | **0.17** | | **0.17** | **0.17** | | **281.19** | | **0.03** | | **281.81** |

### 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 | 0.27 | 0.25 | 2.47 | 0.01 | 0.83 | 0.03 | 0.86 | 0.03 | 0.03 | 0.06 | | 560.28 | | 0.03 | | 560.83 |
| **Total** | **0.27** | **0.25** | **2.47** | **0.01** | **0.83** | **0.03** | **0.86** | **0.03** | **0.03** | **0.06** | | **560.28** | | **0.03** | | **560.83** |

### 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 | | | | | |
| Archit. Coating | 166.98 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.33 | 2.18 | 1.87 | 0.00 | | 0.17 | 0.17 | | 0.17 | 0.17 | 0.00 | 281.19 | | 0.03 | | 281.81 |
| **Total** | **167.31** | **2.18** | **1.87** | **0.00** | | **0.17** | **0.17** | | **0.17** | **0.17** | **0.00** | **281.19** | | **0.03** | | **281.81** |

**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 | 0.27 | 0.25 | 2.47 | 0.01 | 0.49 | 0.03 | 0.52 | 0.03 | 0.03 | 0.06 | | 560.28 | | 0.03 | | 560.83 |
| **Total** | **0.27** | **0.25** | **2.47** | **0.01** | **0.49** | **0.03** | **0.52** | **0.03** | **0.03** | **0.06** | | **560.28** | | **0.03** | | **560.83** |

# 4.0 Mobile Detail

## 4.1 Mitigation Measures Mobile

Increase Density
Increase Diversity
Increase Transit Accessibility
Improve Pedestrian Network

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 20.13 | 12.53 | 62.35 | 0.14 | 16.52 | 0.71 | 17.23 | 0.23 | 0.62 | 0.85 | | 11,895.20 | | 0.52 | | 11,906.20 |
| Unmitigated | 28.40 | 17.10 | 83.88 | 0.20 | 24.48 | 1.03 | 25.50 | 0.34 | 0.90 | 1.24 | | 17,423.04 | | 0.74 | | 17,438.63 |
| **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 |
| Apartments Mid Rise | 1,805.66 | 1,961.84 | 1663.18 | 6,020,404 | 4,064,626 |
| Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Strip Mall | 376.72 | 357.34 | 173.66 | 792,494 | 535,046 |
| Total | 2,182.38 | 2,319.18 | 1,836.84 | 6,812,898 | 4,599,672 |

## 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 |
| Apartments Mid Rise | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |
| Parking Structure | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 8.90 | 13.30 | 7.40 | 16.60 | 64.40 | 19.00 |

# 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 | 0.10 | 0.83 | 0.36 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,063.05 | | 0.02 | 0.02 | 1,069.52 |
| NaturalGas Unmitigated | 0.10 | 0.83 | 0.36 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,063.05 | | 0.02 | 0.02 | 1,069.52 |
| **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 | | | | | |
| Apartments Mid Rise | 8988.16 | 0.10 | 0.83 | 0.35 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,057.43 | | 0.02 | 0.02 | 1,063.87 |
| Parking Structure | 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 |
| Strip Mall | 47.7397 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 5.62 | | 0.00 | 0.00 | 5.65 |
| **Total** | | **0.10** | **0.83** | **0.35** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,063.05** | | **0.02** | **0.02** | **1,069.52** |

### 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 | | | | | |
| Apartments Mid Rise | 8.98816 | 0.10 | 0.83 | 0.35 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,057.43 | | 0.02 | 0.02 | 1,063.87 |
| Parking Structure | 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 |
| Strip Mall | 0.0477397 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 5.62 | | 0.00 | 0.00 | 5.65 |
| **Total** | | **0.10** | **0.83** | **0.35** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,063.05** | | **0.02** | **0.02** | **1,069.52** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior
Use Low VOC Paint - Residential Exterior
Use Low VOC Paint - Non-Residential Interior
Use Low VOC Paint - Non-Residential Exterior
No Hearths Installed

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 10.78 | 0.27 | 22.99 | 0.00 | | 0.00 | 0.13 | | 0.00 | 0.13 | 0.00 | 41.20 | | 0.04 | 0.00 | 42.05 |
| Unmitigated | 40.58 | 1.60 | 113.68 | 0.22 | | 0.00 | 14.61 | | 0.00 | 14.61 | 1,933.54 | 4,973.20 | | 7.69 | 0.12 | 7,105.01 |
| **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 | 1.73 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 8.98 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 29.16 | 1.34 | 90.70 | 0.22 | | 0.00 | 14.49 | | 0.00 | 14.49 | 1,933.54 | 4,932.00 | | 7.65 | 0.12 | 7,062.96 |
| Landscaping | 0.70 | 0.27 | 22.99 | 0.00 | | 0.00 | 0.13 | | 0.00 | 0.13 | | 41.20 | | 0.04 | | 42.05 |
| **Total** | **40.57** | **1.61** | **113.69** | **0.22** | | **0.00** | **14.62** | | **0.00** | **14.62** | **1,933.54** | **4,973.20** | | **7.69** | **0.12** | **7,105.01** |

### 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 | 1.10 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 8.98 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.70 | 0.27 | 22.99 | 0.00 | | 0.00 | 0.13 | | 0.00 | 0.13 | | 41.20 | | 0.04 | | 42.05 |
| **Total** | **10.78** | **0.27** | **22.99** | **0.00** | | **0.00** | **0.13** | | **0.00** | **0.13** | **0.00** | **41.20** | | **0.04** | **0.00** | **42.05** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet
Install Low Flow Kitchen Faucet
Install Low Flow Toilet
Install Low Flow Shower
Use Water Efficient Irrigation System

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

## 9.0 Vegetation

# Beach and Ellis Alternative 3

**Orange County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Parking Structure | 463 | Space |
| Apartments Mid Rise | 274 | Dwelling Unit |
| Strip Mall | 8.5 | 1000sqft |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics - SCE Emission Factors updated to reflect most recent (2007) eGrid numbers.
Land Use - 2.74 equals total lot acreage
Construction Phase - Construction Schedule provided by project applicant
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Demolition -
Grading - 2.74 equals total site acreage
Architectural Coating - rates indicate a 10% decrease in VOC content for residential and 125 for non-residential
Woodstoves - No fireplaces
Solid Waste - Landfill has gas collection
Construction Off-road Equipment Mitigation -
Mobile Land Use Mitigation -
Area Mitigation - 10% reduction in VOCs
Water Mitigation -
Waste Mitigation -

# 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 | | | | | |
| 2016 | 8.17 | 71.43 | 46.95 | 0.13 | 126.72 | 3.07 | 129.79 | 3.66 | 3.07 | 6.73 | 0.00 | 13,585.31 | 0.00 | 0.57 | 0.00 | 13,597.20 |
| 2017 | 170.80 | 28.27 | 35.85 | 0.08 | 4.72 | 1.78 | 6.26 | 0.20 | 1.78 | 1.82 | 0.00 | 7,860.93 | 0.00 | 0.49 | 0.00 | 7,871.21 |
| **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 | | | | | |
| 2016 | 8.17 | 71.43 | 46.95 | 0.13 | 72.34 | 3.07 | 75.41 | 1.57 | 3.07 | 4.64 | 0.00 | 13,585.31 | 0.00 | 0.57 | 0.00 | 13,597.20 |
| 2017 | 170.80 | 28.27 | 35.85 | 0.08 | 2.82 | 1.78 | 4.36 | 0.20 | 1.78 | 1.82 | 0.00 | 7,860.93 | 0.00 | 0.49 | 0.00 | 7,871.21 |
| **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 | 40.58 | 1.60 | 113.68 | 0.22 | | 0.00 | 14.61 | | 0.00 | 14.61 | 1,933.54 | 4,973.20 | | 7.69 | 0.12 | 7,105.01 |
| Energy | 0.10 | 0.83 | 0.36 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,063.05 | | 0.02 | 0.02 | 1,069.52 |
| Mobile | 24.13 | 15.73 | 85.73 | 0.22 | 24.48 | 1.02 | 25.50 | 0.34 | 0.90 | 1.24 | | 18,447.18 | | 0.73 | | 18,462.52 |
| **Total** | **64.81** | **18.16** | **199.77** | **0.45** | **24.48** | **1.02** | **40.18** | **0.34** | **0.90** | **15.92** | **1,933.54** | **24,483.43** | | **8.44** | **0.14** | **26,637.05** |

### 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 | 10.78 | 0.27 | 22.99 | 0.00 | | 0.00 | 0.13 | | 0.00 | 0.13 | 0.00 | 41.20 | | 0.04 | 0.00 | 42.05 |
| Energy | 0.10 | 0.83 | 0.36 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,063.05 | | 0.02 | 0.02 | 1,069.52 |
| Mobile | 17.27 | 11.62 | 62.33 | 0.15 | 16.52 | 0.71 | 17.23 | 0.23 | 0.62 | 0.85 | | 12,590.10 | | 0.51 | | 12,600.85 |
| **Total** | **28.15** | **12.72** | **85.68** | **0.16** | **16.52** | **0.71** | **17.43** | **0.23** | **0.62** | **1.05** | **0.00** | **13,694.35** | | **0.57** | **0.02** | **13,712.42** |

## 3.0 Construction Detail

### 3.1 Mitigation Measures Construction

Use Soil Stabilizer
Replace Ground Cover
Water Exposed Area
Water Unpaved Roads
Reduce Vehicle Speed on Unpaved Roads
Clean Paved Roads

### 3.2 Demolition - 2016

**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 | | | | | 0.64 | 0.00 | 0.64 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 4.13 | 30.94 | 21.38 | 0.04 | | 1.68 | 1.68 | | 1.68 | 1.68 | | 3,946.47 | | 0.37 | | 3,954.23 |
| **Total** | **4.13** | **30.94** | **21.38** | **0.04** | **0.64** | **1.68** | **2.32** | **0.00** | **1.68** | **1.68** | | **3,946.47** | | **0.37** | | **3,954.23** |

**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 | 0.10 | 1.04 | 0.66 | 0.00 | 2.94 | 0.04 | 2.98 | 0.01 | 0.04 | 0.05 | | 241.02 | | 0.01 | | 241.13 |
| 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 | 0.68 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 147.50 | | 0.01 | | 147.65 |
| **Total** | **0.16** | **1.10** | **1.34** | **0.00** | **3.14** | **0.05** | **3.19** | **0.02** | **0.05** | **0.06** | | **388.52** | | **0.02** | | **388.78** |

**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 | | | | | 0.24 | 0.00 | 0.24 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 4.13 | 30.94 | 21.38 | 0.04 | | 1.68 | 1.68 | | 1.68 | 1.68 | 0.00 | 3,946.47 | | 0.37 | | 3,954.23 |
| **Total** | **4.13** | **30.94** | **21.38** | **0.04** | **0.24** | **1.68** | **1.92** | **0.00** | **1.68** | **1.68** | **0.00** | **3,946.47** | | **0.37** | | **3,954.23** |

### 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 | 0.10 | 1.04 | 0.66 | 0.00 | 1.71 | 0.04 | 1.75 | 0.01 | 0.04 | 0.05 | | 241.02 | | 0.01 | | 241.13 |
| 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 | 0.68 | 0.00 | 0.12 | 0.01 | 0.13 | 0.01 | 0.01 | 0.01 | | 147.50 | | 0.01 | | 147.65 |
| **Total** | **0.16** | **1.10** | **1.34** | **0.00** | **1.83** | **0.05** | **1.88** | **0.02** | **0.05** | **0.06** | | **388.52** | | **0.02** | | **388.78** |

## 3.3 Mass Site Grading - 2016

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.20 | 0.00 | 6.20 | 3.33 | 0.00 | 3.33 | | | | | | 0.00 |
| Off-Road | 3.93 | 29.69 | 19.99 | 0.04 | | 1.46 | 1.46 | | 1.46 | 1.46 | | 3,827.58 | | 0.35 | | 3,834.99 |
| **Total** | **3.93** | **29.69** | **19.99** | **0.04** | **6.20** | **1.46** | **7.66** | **3.33** | **1.46** | **4.79** | | **3,827.58** | | **0.35** | | **3,834.99** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 4.19 | 41.70 | 26.43 | 0.09 | 120.36 | 1.61 | 121.97 | 0.33 | 1.61 | 1.93 | | 9,644.27 | | 0.21 | | 9,648.63 |
| 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 | 0.05 | 0.04 | 0.53 | 0.00 | 0.15 | 0.00 | 0.16 | 0.01 | 0.00 | 0.01 | | 113.46 | | 0.01 | | 113.58 |
| **Total** | **4.24** | **41.74** | **26.96** | **0.09** | **120.51** | **1.61** | **122.13** | **0.34** | **1.61** | **1.94** | | **9,757.73** | | **0.22** | | **9,762.21** |

### 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 | | | | | |
| Fugitive Dust | | | | | 2.30 | 0.00 | 2.30 | 1.23 | 0.00 | 1.23 | | | | | | 0.00 |
| Off-Road | 3.93 | 29.69 | 19.99 | 0.04 | | 1.46 | 1.46 | | 1.46 | 1.46 | 0.00 | 3,827.58 | | 0.35 | | 3,834.99 |
| **Total** | **3.93** | **29.69** | **19.99** | **0.04** | **2.30** | **1.46** | **3.76** | **1.23** | **1.46** | **2.69** | **0.00** | **3,827.58** | | **0.35** | | **3,834.99** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 4.19 | 41.70 | 26.43 | 0.09 | 69.95 | 1.61 | 71.56 | 0.33 | 1.61 | 1.93 | | 9,644.27 | | 0.21 | | 9,648.63 |
| 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 | 0.05 | 0.04 | 0.53 | 0.00 | 0.09 | 0.00 | 0.10 | 0.01 | 0.00 | 0.01 | | 113.46 | | 0.01 | | 113.58 |
| **Total** | **4.24** | **41.74** | **26.96** | **0.09** | **70.04** | **1.61** | **71.66** | **0.34** | **1.61** | **1.94** | | **9,757.73** | | **0.22** | | **9,762.21** |

## 3.4 Fine Site Grading - 2016

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.31 | 0.00 | 6.31 | 3.31 | 0.00 | 3.31 | | | | | | 0.00 |
| Off-Road | 3.93 | 29.69 | 19.99 | 0.04 | | 1.46 | 1.46 | | 1.46 | 1.46 | | 3,827.58 | | 0.35 | | 3,834.99 |
| **Total** | **3.93** | **29.69** | **19.99** | **0.04** | **6.31** | **1.46** | **7.77** | **3.31** | **1.46** | **4.77** | | **3,827.58** | | **0.35** | | **3,834.99** |

### 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 | 0.05 | 0.04 | 0.53 | 0.00 | 0.15 | 0.00 | 0.16 | 0.01 | 0.00 | 0.01 | | 113.46 | | 0.01 | | 113.58 |
| **Total** | **0.05** | **0.04** | **0.53** | **0.00** | **0.15** | **0.00** | **0.16** | **0.01** | **0.00** | **0.01** | | **113.46** | | **0.01** | | **113.58** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 2.34 | 0.00 | 2.34 | 1.23 | 0.00 | 1.23 | | | | | | 0.00 |
| Off-Road | 3.93 | 29.69 | 19.99 | 0.04 | | 1.46 | 1.46 | | 1.46 | 1.46 | 0.00 | 3,827.58 | | 0.35 | | 3,834.99 |
| **Total** | **3.93** | **29.69** | **19.99** | **0.04** | **2.34** | **1.46** | **3.80** | **1.23** | **1.46** | **2.69** | **0.00** | **3,827.58** | | **0.35** | | **3,834.99** |

**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 | 0.05 | 0.04 | 0.53 | 0.00 | 0.09 | 0.00 | 0.10 | 0.01 | 0.00 | 0.01 | | 113.46 | | 0.01 | | 113.58 |
| **Total** | **0.05** | **0.04** | **0.53** | **0.00** | **0.09** | **0.00** | **0.10** | **0.01** | **0.00** | **0.01** | | **113.46** | | **0.01** | | **113.58** |

## 3.5 Trenching - 2016

**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 | 0.00 | 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** |

**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 | 0.00 | 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** |

## 3.6 Building Construction - 2016

**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 | 3.96 | 22.58 | 18.51 | 0.04 | | 1.35 | 1.35 | | 1.35 | 1.35 | | 3,233.11 | | 0.36 | | 3,240.57 |
| **Total** | **3.96** | **22.58** | **18.51** | **0.04** | | **1.35** | **1.35** | | **1.35** | **1.35** | | **3,233.11** | | **0.36** | | **3,240.57** |

### 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 | 0.64 | 6.89 | 4.68 | 0.02 | 0.55 | 0.22 | 0.77 | 0.04 | 0.22 | 0.26 | | 1,603.74 | | 0.03 | | 1,604.42 |
| Worker | 1.30 | 1.22 | 14.28 | 0.03 | 4.17 | 0.13 | 4.31 | 0.16 | 0.13 | 0.29 | | 3,086.22 | | 0.15 | | 3,089.31 |
| **Total** | **1.94** | **8.11** | **18.96** | **0.05** | **4.72** | **0.35** | **5.08** | **0.20** | **0.35** | **0.55** | | **4,689.96** | | **0.18** | | **4,693.73** |

### 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 | 3.96 | 22.58 | 18.51 | 0.04 | | 1.35 | 1.35 | | 1.35 | 1.35 | 0.00 | 3,233.11 | | 0.36 | | 3,240.57 |
| **Total** | **3.96** | **22.58** | **18.51** | **0.04** | | **1.35** | **1.35** | | **1.35** | **1.35** | **0.00** | **3,233.11** | | **0.36** | | **3,240.57** |

### 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 | 0.64 | 6.89 | 4.68 | 0.02 | 0.34 | 0.22 | 0.55 | 0.04 | 0.22 | 0.26 | | 1,603.74 | | 0.03 | | 1,604.42 |
| Worker | 1.30 | 1.22 | 14.28 | 0.03 | 2.49 | 0.13 | 2.62 | 0.16 | 0.13 | 0.29 | | 3,086.22 | | 0.15 | | 3,089.31 |
| **Total** | **1.94** | **8.11** | **18.96** | **0.05** | **2.83** | **0.35** | **3.17** | **0.20** | **0.35** | **0.55** | | **4,689.96** | | **0.18** | | **4,693.73** |

## 3.6 Building Construction - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.61 | 20.78 | 18.26 | 0.04 | | 1.20 | 1.20 | | 1.20 | 1.20 | | 3,233.11 | | 0.32 | | 3,239.85 |
| **Total** | **3.61** | **20.78** | **18.26** | **0.04** | | **1.20** | **1.20** | | **1.20** | **1.20** | | **3,233.11** | | **0.32** | | **3,239.85** |

### 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 | 0.60 | 6.38 | 4.36 | 0.02 | 0.55 | 0.20 | 0.75 | 0.04 | 0.20 | 0.24 | | 1,608.26 | | 0.03 | | 1,608.88 |
| Worker | 1.23 | 1.11 | 13.23 | 0.03 | 4.17 | 0.13 | 4.31 | 0.16 | 0.13 | 0.29 | | 3,019.57 | | 0.14 | | 3,022.47 |
| **Total** | **1.83** | **7.49** | **17.59** | **0.05** | **4.72** | **0.33** | **5.06** | **0.20** | **0.33** | **0.53** | | **4,627.83** | | **0.17** | | **4,631.35** |

### 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 | 3.61 | 20.78 | 18.26 | 0.04 | | 1.20 | 1.20 | | 1.20 | 1.20 | 0.00 | 3,233.11 | | 0.32 | | 3,239.85 |
| **Total** | **3.61** | **20.78** | **18.26** | **0.04** | | **1.20** | **1.20** | | **1.20** | **1.20** | **0.00** | **3,233.11** | | **0.32** | | **3,239.85** |

### 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 | 0.60 | 6.38 | 4.36 | 0.02 | 0.34 | 0.20 | 0.54 | 0.04 | 0.20 | 0.24 | | 1,608.26 | | 0.03 | | 1,608.88 |
| Worker | 1.23 | 1.11 | 13.23 | 0.03 | 2.49 | 0.13 | 2.62 | 0.16 | 0.13 | 0.29 | | 3,019.57 | | 0.14 | | 3,022.47 |
| **Total** | **1.83** | **7.49** | **17.59** | **0.05** | **2.83** | **0.33** | **3.16** | **0.20** | **0.33** | **0.53** | | **4,627.83** | | **0.17** | | **4,631.35** |

## 3.7 Paving - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.17 | 19.94 | 16.32 | 0.03 | | 1.57 | 1.57 | | 1.57 | 1.57 | | 2,393.42 | | 0.29 | | 2,399.42 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.17** | **19.94** | **16.32** | **0.03** | | **1.57** | **1.57** | | **1.57** | **1.57** | | **2,393.42** | | **0.29** | | **2,399.42** |

### 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 | 0.07 | 0.06 | 0.73 | 0.00 | 0.23 | 0.01 | 0.24 | 0.01 | 0.01 | 0.02 | | 166.52 | | 0.01 | | 166.68 |
| **Total** | **0.07** | **0.06** | **0.73** | **0.00** | **0.23** | **0.01** | **0.24** | **0.01** | **0.01** | **0.02** | | **166.52** | | **0.01** | | **166.68** |

### 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 | 3.17 | 19.94 | 16.32 | 0.03 | | 1.57 | 1.57 | | 1.57 | 1.57 | 0.00 | 2,393.42 | | 0.29 | | 2,399.42 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.17** | **19.94** | **16.32** | **0.03** | | **1.57** | **1.57** | | **1.57** | **1.57** | **0.00** | **2,393.42** | | **0.29** | | **2,399.42** |

### 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 | 0.07 | 0.06 | 0.73 | 0.00 | 0.14 | 0.01 | 0.14 | 0.01 | 0.01 | 0.02 | | 166.52 | | 0.01 | | 166.68 |
| **Total** | **0.07** | **0.06** | **0.73** | **0.00** | **0.14** | **0.01** | **0.14** | **0.01** | **0.01** | **0.02** | | **166.52** | | **0.01** | | **166.68** |

## 3.8 Architectural Coating - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 166.98 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.33 | 2.18 | 1.87 | 0.00 | | 0.17 | 0.17 | | 0.17 | 0.17 | | 281.19 | | 0.03 | | 281.81 |
| **Total** | **167.31** | **2.18** | **1.87** | **0.00** | | **0.17** | **0.17** | | **0.17** | **0.17** | | **281.19** | | **0.03** | | **281.81** |

### 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 | 0.24 | 0.22 | 2.63 | 0.01 | 0.83 | 0.03 | 0.86 | 0.03 | 0.03 | 0.06 | | 599.47 | | 0.03 | | 600.05 |
| **Total** | **0.24** | **0.22** | **2.63** | **0.01** | **0.83** | **0.03** | **0.86** | **0.03** | **0.03** | **0.06** | | **599.47** | | **0.03** | | **600.05** |

### 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 | | | | | |
| Archit. Coating | 166.98 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.33 | 2.18 | 1.87 | 0.00 | | 0.17 | 0.17 | | 0.17 | 0.17 | 0.00 | 281.19 | | 0.03 | | 281.81 |
| **Total** | **167.31** | **2.18** | **1.87** | **0.00** | | **0.17** | **0.17** | | **0.17** | **0.17** | **0.00** | **281.19** | | **0.03** | | **281.81** |

**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 | 0.24 | 0.22 | 2.63 | 0.01 | 0.49 | 0.03 | 0.52 | 0.03 | 0.03 | 0.06 | | 599.47 | | 0.03 | | 600.05 |
| **Total** | **0.24** | **0.22** | **2.63** | **0.01** | **0.49** | **0.03** | **0.52** | **0.03** | **0.03** | **0.06** | | **599.47** | | **0.03** | | **600.05** |

# 4.0 Mobile Detail

## 4.1 Mitigation Measures Mobile

Increase Density
Increase Diversity
Increase Transit Accessibility
Improve Pedestrian Network

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 17.27 | 11.62 | 62.33 | 0.15 | 16.52 | 0.71 | 17.23 | 0.23 | 0.62 | 0.85 | | 12,590.10 | | 0.51 | | 12,600.85 |
| Unmitigated | 24.13 | 15.73 | 85.73 | 0.22 | 24.48 | 1.02 | 25.50 | 0.34 | 0.90 | 1.24 | | 18,447.18 | | 0.73 | | 18,462.52 |
| **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 |
| Apartments Mid Rise | 1,805.66 | 1,961.84 | 1663.18 | 6,020,404 | 4,064,626 |
| Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Strip Mall | 376.72 | 357.34 | 173.66 | 792,494 | 535,046 |
| Total | 2,182.38 | 2,319.18 | 1,836.84 | 6,812,898 | 4,599,672 |

## 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 |
| Apartments Mid Rise | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |
| Parking Structure | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 8.90 | 13.30 | 7.40 | 16.60 | 64.40 | 19.00 |

# 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 | 0.10 | 0.83 | 0.36 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,063.05 | | 0.02 | 0.02 | 1,069.52 |
| NaturalGas Unmitigated | 0.10 | 0.83 | 0.36 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,063.05 | | 0.02 | 0.02 | 1,069.52 |
| **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 | | | | | |
| Apartments Mid Rise | 8988.16 | 0.10 | 0.83 | 0.35 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,057.43 | | 0.02 | 0.02 | 1,063.87 |
| Parking Structure | 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 |
| Strip Mall | 47.7397 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 5.62 | | 0.00 | 0.00 | 5.65 |
| **Total** | | **0.10** | **0.83** | **0.35** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,063.05** | | **0.02** | **0.02** | **1,069.52** |

### 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 | | | | | |
| Apartments Mid Rise | 8.98816 | 0.10 | 0.83 | 0.35 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,057.43 | | 0.02 | 0.02 | 1,063.87 |
| Parking Structure | 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 |
| Strip Mall | 0.0477397 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 5.62 | | 0.00 | 0.00 | 5.65 |
| **Total** | | **0.10** | **0.83** | **0.35** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,063.05** | | **0.02** | **0.02** | **1,069.52** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior
Use Low VOC Paint - Residential Exterior
Use Low VOC Paint - Non-Residential Interior
Use Low VOC Paint - Non-Residential Exterior
No Hearths Installed

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 10.78 | 0.27 | 22.99 | 0.00 | | 0.00 | 0.13 | | 0.00 | 0.13 | 0.00 | 41.20 | | 0.04 | 0.00 | 42.05 |
| Unmitigated | 40.58 | 1.60 | 113.68 | 0.22 | | 0.00 | 14.61 | | 0.00 | 14.61 | 1,933.54 | 4,973.20 | | 7.69 | 0.12 | 7,105.01 |
| **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 | 1.73 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 8.98 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 29.16 | 1.34 | 90.70 | 0.22 | | 0.00 | 14.49 | | 0.00 | 14.49 | 1,933.54 | 4,932.00 | | 7.65 | 0.12 | 7,062.96 |
| Landscaping | 0.70 | 0.27 | 22.99 | 0.00 | | 0.00 | 0.13 | | 0.00 | 0.13 | | 41.20 | | 0.04 | | 42.05 |
| **Total** | **40.57** | **1.61** | **113.69** | **0.22** | | **0.00** | **14.62** | | **0.00** | **14.62** | **1,933.54** | **4,973.20** | | **7.69** | **0.12** | **7,105.01** |

### 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 | 1.10 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 8.98 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.70 | 0.27 | 22.99 | 0.00 | | 0.00 | 0.13 | | 0.00 | 0.13 | | 41.20 | | 0.04 | | 42.05 |
| **Total** | **10.78** | **0.27** | **22.99** | **0.00** | | **0.00** | **0.13** | | **0.00** | **0.13** | **0.00** | **41.20** | | **0.04** | **0.00** | **42.05** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet
Install Low Flow Kitchen Faucet
Install Low Flow Toilet
Install Low Flow Shower
Use Water Efficient Irrigation System

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

## 9.0 Vegetation

# Beach and Ellis Alternative 3

**Orange County, Annual**

## 1.0 Project

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Parking Structure | 463 | Space |
| Apartments Mid Rise | 274 | Dwelling Unit |
| Strip Mall | 8.5 | 1000sqft |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics - SCE Emission Factors updated to reflect most recent (2007) eGrid numbers.
Land Use - 2.74 equals total lot acreage
Construction Phase - Construction Schedule provided by project applicant
Off-road Equipment -
Off-road Equipment - Defaults changed to reflect equipment used in previous URBEMIS run.
Off-road Equipment - Defaults changed to reflect equipment used in previous URBEMIS model
Off-road Equipment - Default changed to reflect equipment used in previous URBEMIS run
Off-road Equipment - Defaults changed to reflect equipment from previous URBEMIS run. "Off-highway Trucks" represents water truck.
Off-road Equipment - Defaults changed to reflect equipment used in previous URBEMIS run.
Off-road Equipment - Defaults changed to reflect equipment used in previous URBEMIS run.
Demolition -
Grading - 2.74 equals total site acreage
Architectural Coating - rates indicate a 10% decrease in VOC content for residential and 125 for non-residential
Woodstoves - No fireplaces
Solid Waste - Landfill has gas collection
Construction Off-road Equipment Mitigation -
Mobile Land Use Mitigation -
Area Mitigation - 10% reduction in VOCs
Water Mitigation -
Waste Mitigation -

# 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 | | | | | |
| 2016 | 0.75 | 4.74 | 4.51 | 0.01 | 2.96 | 0.24 | 3.20 | 0.12 | 0.24 | 0.36 | 0.00 | 911.17 | 911.17 | 0.06 | 0.00 | 912.37 |
| 2017 | 2.65 | 3.35 | 4.18 | 0.01 | 0.48 | 0.19 | 0.67 | 0.02 | 0.19 | 0.21 | 0.00 | 805.29 | 805.29 | 0.05 | 0.00 | 806.38 |
| **Total** | **3.40** | **8.09** | **8.69** | **0.02** | **3.44** | **0.43** | **3.87** | **0.14** | **0.43** | **0.57** | **0.00** | **1,716.46** | **1,716.46** | **0.11** | **0.00** | **1,718.75** |

### 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 | | | | | |
| 2016 | 0.75 | 4.74 | 4.51 | 0.01 | 1.69 | 0.24 | 1.93 | 0.06 | 0.24 | 0.30 | 0.00 | 911.17 | 911.17 | 0.06 | 0.00 | 912.37 |
| 2017 | 2.65 | 3.35 | 4.18 | 0.01 | 0.29 | 0.19 | 0.48 | 0.02 | 0.19 | 0.21 | 0.00 | 805.29 | 805.29 | 0.05 | 0.00 | 806.38 |
| **Total** | **3.40** | **8.09** | **8.69** | **0.02** | **1.98** | **0.43** | **2.41** | **0.08** | **0.43** | **0.51** | **0.00** | **1,716.46** | **1,716.46** | **0.11** | **0.00** | **1,718.75** |

## 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 | 2.99 | 0.07 | 5.91 | 0.00 | | 0.00 | 0.29 | | 0.00 | 0.29 | 29.10 | 174.60 | 203.70 | 0.10 | 0.00 | 206.96 |
| Energy | 0.02 | 0.15 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 380.40 | 380.40 | 0.01 | 0.01 | 382.57 |
| Mobile | 4.22 | 2.64 | 14.27 | 0.04 | 3.71 | 0.17 | 3.88 | 0.06 | 0.15 | 0.21 | 0.00 | 2,698.18 | 2,698.18 | 0.11 | 0.00 | 2,700.54 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 27.40 | 0.00 | 27.40 | 1.62 | 0.00 | 61.40 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 70.81 | 70.81 | 0.56 | 0.02 | 87.38 |
| **Total** | **7.23** | **2.86** | **20.25** | **0.04** | **3.71** | **0.17** | **4.18** | **0.06** | **0.15** | **0.51** | **56.50** | **3,323.99** | **3,380.49** | **2.40** | **0.03** | **3,438.85** |

**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 | 1.97 | 0.05 | 4.19 | 0.00 | | 0.00 | 0.02 | | 0.00 | 0.02 | 0.00 | 6.82 | 6.82 | 0.01 | 0.00 | 6.96 |
| Energy | 0.02 | 0.15 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 380.40 | 380.40 | 0.01 | 0.01 | 382.57 |
| Mobile | 3.01 | 1.95 | 10.57 | 0.02 | 2.51 | 0.12 | 2.62 | 0.04 | 0.10 | 0.14 | 0.00 | 1,842.04 | 1,842.04 | 0.08 | 0.00 | 1,843.71 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 13.70 | 0.00 | 13.70 | 0.81 | 0.00 | 30.70 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 60.08 | 60.08 | 0.45 | 0.01 | 73.35 |
| **Total** | **5.00** | **2.15** | **14.83** | **0.02** | **2.51** | **0.12** | **2.65** | **0.04** | **0.10** | **0.17** | **13.70** | **2,289.34** | **2,303.04** | **1.36** | **0.02** | **2,337.29** |

# 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

Use Soil Stabilizer
Replace Ground Cover
Water Exposed Area
Water Unpaved Roads
Reduce Vehicle Speed on Unpaved Roads
Clean Paved Roads

## 3.2 Demolition - 2016

**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 | 0.09 | 0.66 | 0.46 | 0.00 | | 0.04 | 0.04 | | 0.04 | 0.04 | 0.00 | 76.95 | 76.95 | 0.01 | 0.00 | 77.10 |
| **Total** | **0.09** | **0.66** | **0.46** | **0.00** | **0.01** | **0.04** | **0.05** | **0.00** | **0.04** | **0.04** | **0.00** | **76.95** | **76.95** | **0.01** | **0.00** | **77.10** |

**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 | 0.02 | 0.02 | 0.00 | 0.06 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 4.69 | 4.69 | 0.00 | 0.00 | 4.69 |
| 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 | 2.75 | 2.75 | 0.00 | 0.00 | 2.75 |
| **Total** | **0.00** | **0.02** | **0.03** | **0.00** | **0.06** | **0.00** | **0.06** | **0.00** | **0.00** | **0.00** | **0.00** | **7.44** | **7.44** | **0.00** | **0.00** | **7.44** |

**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 | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.09 | 0.66 | 0.46 | 0.00 | | 0.04 | 0.04 | | 0.04 | 0.04 | 0.00 | 76.95 | 76.95 | 0.01 | 0.00 | 77.10 |
| **Total** | **0.09** | **0.66** | **0.46** | **0.00** | **0.01** | **0.04** | **0.05** | **0.00** | **0.04** | **0.04** | **0.00** | **76.95** | **76.95** | **0.01** | **0.00** | **77.10** |

**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 | 0.02 | 0.02 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 4.69 | 4.69 | 0.00 | 0.00 | 4.69 |
| 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 | 2.75 | 2.75 | 0.00 | 0.00 | 2.75 |
| **Total** | **0.00** | **0.02** | **0.03** | **0.00** | **0.03** | **0.00** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** | **7.44** | **7.44** | **0.00** | **0.00** | **7.44** |

## 3.3 Mass Site Grading - 2016

**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 | | | | | 0.14 | 0.00 | 0.14 | 0.07 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.09 | 0.65 | 0.44 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 76.37 | 76.37 | 0.01 | 0.00 | 76.52 |
| **Total** | **0.09** | **0.65** | **0.44** | **0.00** | **0.14** | **0.03** | **0.17** | **0.07** | **0.03** | **0.10** | **0.00** | **76.37** | **76.37** | **0.01** | **0.00** | **76.52** |

**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 | 0.09 | 0.91 | 0.62 | 0.00 | 2.39 | 0.04 | 2.42 | 0.01 | 0.04 | 0.04 | 0.00 | 192.14 | 192.14 | 0.00 | 0.00 | 192.23 |
| 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 | 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 | 2.16 | 2.16 | 0.00 | 0.00 | 2.17 |
| **Total** | **0.09** | **0.91** | **0.63** | **0.00** | **2.39** | **0.04** | **2.42** | **0.01** | **0.04** | **0.04** | **0.00** | **194.30** | **194.30** | **0.00** | **0.00** | **194.40** |

**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 | | | | | 0.05 | 0.00 | 0.05 | 0.03 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.09 | 0.65 | 0.44 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 76.37 | 76.37 | 0.01 | 0.00 | 76.52 |
| **Total** | **0.09** | **0.65** | **0.44** | **0.00** | **0.05** | **0.03** | **0.08** | **0.03** | **0.03** | **0.06** | **0.00** | **76.37** | **76.37** | **0.01** | **0.00** | **76.52** |

### 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 | 0.09 | 0.91 | 0.62 | 0.00 | 1.39 | 0.04 | 1.42 | 0.01 | 0.04 | 0.04 | 0.00 | 192.14 | 192.14 | 0.00 | 0.00 | 192.23 |
| 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 | 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 | 2.16 | 2.16 | 0.00 | 0.00 | 2.17 |
| **Total** | **0.09** | **0.91** | **0.63** | **0.00** | **1.39** | **0.04** | **1.42** | **0.01** | **0.04** | **0.04** | **0.00** | **194.30** | **194.30** | **0.00** | **0.00** | **194.40** |

## 3.4 Fine Site Grading - 2016

### 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 | | | | | 0.03 | 0.00 | 0.03 | 0.02 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.16 | 0.11 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 19.09 | 19.09 | 0.00 | 0.00 | 19.13 |
| **Total** | **0.02** | **0.16** | **0.11** | **0.00** | **0.03** | **0.01** | **0.04** | **0.02** | **0.01** | **0.03** | **0.00** | **19.09** | **19.09** | **0.00** | **0.00** | **19.13** |

### 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 | 0.54 | 0.54 | 0.00 | 0.00 | 0.54 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.54** | **0.54** | **0.00** | **0.00** | **0.54** |

### 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 | | | | | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.02 | 0.16 | 0.11 | 0.00 | | 0.01 | 0.01 | | 0.01 | 0.01 | 0.00 | 19.09 | 19.09 | 0.00 | 0.00 | 19.13 |
| **Total** | **0.02** | **0.16** | **0.11** | **0.00** | **0.01** | **0.01** | **0.02** | **0.01** | **0.01** | **0.02** | **0.00** | **19.09** | **19.09** | **0.00** | **0.00** | **19.13** |

**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 | 0.54 | 0.54 | 0.00 | 0.00 | 0.54 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.54** | **0.54** | **0.00** | **0.00** | **0.54** |

## 3.5 Trenching - 2016

**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** |

**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** |

## 3.6 Building Construction - 2016

**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 | 0.30 | 1.72 | 1.41 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 222.85 | 222.85 | 0.02 | 0.00 | 223.36 |
| **Total** | **0.30** | **1.72** | **1.41** | **0.00** | | **0.10** | **0.10** | | **0.10** | **0.10** | **0.00** | **222.85** | **222.85** | **0.02** | **0.00** | **223.36** |

### 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 | 0.05 | 0.52 | 0.39 | 0.00 | 0.04 | 0.02 | 0.05 | 0.00 | 0.02 | 0.02 | 0.00 | 110.28 | 110.28 | 0.00 | 0.00 | 110.32 |
| Worker | 0.10 | 0.09 | 1.05 | 0.00 | 0.29 | 0.01 | 0.30 | 0.01 | 0.01 | 0.02 | 0.00 | 203.34 | 203.34 | 0.01 | 0.00 | 203.55 |
| **Total** | **0.15** | **0.61** | **1.44** | **0.00** | **0.33** | **0.03** | **0.35** | **0.01** | **0.03** | **0.04** | **0.00** | **313.62** | **313.62** | **0.01** | **0.00** | **313.87** |

### 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 | 0.30 | 1.72 | 1.41 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 222.85 | 222.85 | 0.02 | 0.00 | 223.36 |
| **Total** | **0.30** | **1.72** | **1.41** | **0.00** | | **0.10** | **0.10** | | **0.10** | **0.10** | **0.00** | **222.85** | **222.85** | **0.02** | **0.00** | **223.36** |

### 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 | 0.05 | 0.52 | 0.39 | 0.00 | 0.02 | 0.02 | 0.04 | 0.00 | 0.02 | 0.02 | 0.00 | 110.28 | 110.28 | 0.00 | 0.00 | 110.32 |
| Worker | 0.10 | 0.09 | 1.05 | 0.00 | 0.17 | 0.01 | 0.18 | 0.01 | 0.01 | 0.02 | 0.00 | 203.34 | 203.34 | 0.01 | 0.00 | 203.55 |
| **Total** | **0.15** | **0.61** | **1.44** | **0.00** | **0.19** | **0.03** | **0.22** | **0.01** | **0.03** | **0.04** | **0.00** | **313.62** | **313.62** | **0.01** | **0.00** | **313.87** |

## 3.6 Building Construction - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.40 | 2.28 | 2.01 | 0.00 | | 0.13 | 0.13 | | 0.13 | 0.13 | 0.00 | 322.54 | 322.54 | 0.03 | 0.00 | 323.22 |
| **Total** | **0.40** | **2.28** | **2.01** | **0.00** | | **0.13** | **0.13** | | **0.13** | **0.13** | **0.00** | **322.54** | **322.54** | **0.03** | **0.00** | **323.22** |

### 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 | 0.07 | 0.69 | 0.53 | 0.00 | 0.06 | 0.02 | 0.08 | 0.00 | 0.02 | 0.03 | 0.00 | 160.04 | 160.04 | 0.00 | 0.00 | 160.11 |
| Worker | 0.14 | 0.13 | 1.40 | 0.00 | 0.42 | 0.01 | 0.43 | 0.02 | 0.01 | 0.03 | 0.00 | 287.94 | 287.94 | 0.01 | 0.00 | 288.22 |
| **Total** | **0.21** | **0.82** | **1.93** | **0.00** | **0.48** | **0.03** | **0.51** | **0.02** | **0.03** | **0.06** | **0.00** | **447.98** | **447.98** | **0.01** | **0.00** | **448.33** |

### 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 | 0.40 | 2.28 | 2.01 | 0.00 | | 0.13 | 0.13 | | 0.13 | 0.13 | 0.00 | 322.54 | 322.54 | 0.03 | 0.00 | 323.22 |
| **Total** | **0.40** | **2.28** | **2.01** | **0.00** | | **0.13** | **0.13** | | **0.13** | **0.13** | **0.00** | **322.54** | **322.54** | **0.03** | **0.00** | **323.22** |

### 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 | 0.07 | 0.69 | 0.53 | 0.00 | 0.03 | 0.02 | 0.06 | 0.00 | 0.02 | 0.03 | 0.00 | 160.04 | 160.04 | 0.00 | 0.00 | 160.11 |
| Worker | 0.14 | 0.13 | 1.40 | 0.00 | 0.25 | 0.01 | 0.26 | 0.02 | 0.01 | 0.03 | 0.00 | 287.94 | 287.94 | 0.01 | 0.00 | 288.22 |
| **Total** | **0.21** | **0.82** | **1.93** | **0.00** | **0.28** | **0.03** | **0.32** | **0.02** | **0.03** | **0.06** | **0.00** | **447.98** | **447.98** | **0.01** | **0.00** | **448.33** |

## 3.7 Paving - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.03 | 0.22 | 0.18 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 23.88 | 23.88 | 0.00 | 0.00 | 23.94 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.03** | **0.22** | **0.18** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **23.88** | **23.88** | **0.00** | **0.00** | **23.94** |

### 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 | 1.59 | 1.59 | 0.00 | 0.00 | 1.59 |
| **Total** | **0.00** | **0.00** | **0.01** | **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** |

### 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 | 0.03 | 0.22 | 0.18 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 23.88 | 23.88 | 0.00 | 0.00 | 23.94 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.03** | **0.22** | **0.18** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **23.88** | **23.88** | **0.00** | **0.00** | **23.94** |

### 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 | 1.59 | 1.59 | 0.00 | 0.00 | 1.59 |
| **Total** | **0.00** | **0.00** | **0.01** | **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** |

## 3.8 Architectural Coating - 2017

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 2.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.03 | 0.02 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 0.00 | 0.00 | 3.07 |
| **Total** | **2.00** | **0.03** | **0.02** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **3.06** | **3.06** | **0.00** | **0.00** | **3.07** |

### 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 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 6.24 | 6.24 | 0.00 | 0.00 | 6.24 |
| **Total** | **0.00** | **0.00** | **0.03** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.24** | **6.24** | **0.00** | **0.00** | **6.24** |

### 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 | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 2.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.03 | 0.02 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 3.06 | 3.06 | 0.00 | 0.00 | 3.07 |
| **Total** | **2.00** | **0.03** | **0.02** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **3.06** | **3.06** | **0.00** | **0.00** | **3.07** |

**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 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 6.24 | 6.24 | 0.00 | 0.00 | 6.24 |
| **Total** | **0.00** | **0.00** | **0.03** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.24** | **6.24** | **0.00** | **0.00** | **6.24** |

# 4.0 Mobile Detail

## 4.1 Mitigation Measures Mobile

Increase Density
Increase Diversity
Increase Transit Accessibility
Improve Pedestrian Network

| | ROG | NOx | CO | SO2 | Fugitive 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 | 3.01 | 1.95 | 10.57 | 0.02 | 2.51 | 0.12 | 2.62 | 0.04 | 0.10 | 0.14 | 0.00 | 1,842.04 | 1,842.04 | 0.08 | 0.00 | 1,843.71 |
| Unmitigated | 4.22 | 2.64 | 14.27 | 0.04 | 3.71 | 0.17 | 3.88 | 0.06 | 0.15 | 0.21 | 0.00 | 2,698.18 | 2,698.18 | 0.11 | 0.00 | 2,700.54 |
| **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 |
| Apartments Mid Rise | 1,805.66 | 1,961.84 | 1663.18 | 6,020,404 | 4,064,626 |
| Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Strip Mall | 376.72 | 357.34 | 173.66 | 792,494 | 535,046 |
| Total | 2,182.38 | 2,319.18 | 1,836.84 | 6,812,898 | 4,599,672 |

## 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 |
| Apartments Mid Rise | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |
| Parking Structure | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 8.90 | 13.30 | 7.40 | 16.60 | 64.40 | 19.00 |

# 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 | 204.40 | 204.40 | 0.00 | 0.00 | 205.50 |
| Electricity Unmitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 204.40 | 204.40 | 0.00 | 0.00 | 205.50 |
| NaturalGas Mitigated | 0.02 | 0.15 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 176.00 | 176.00 | 0.00 | 0.00 | 177.07 |
| NaturalGas Unmitigated | 0.02 | 0.15 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 176.00 | 176.00 | 0.00 | 0.00 | 177.07 |
| **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 | | | | | |
| Apartments Mid Rise | 3.28068e+006 | 0.02 | 0.15 | 0.06 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 175.07 | 175.07 | 0.00 | 0.00 | 176.13 |
| Parking Structure | 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 |
| Strip Mall | 17425 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.93 | 0.93 | 0.00 | 0.00 | 0.94 |
| **Total** | | **0.02** | **0.15** | **0.06** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **176.00** | **176.00** | **0.00** | **0.00** | **177.07** |

### 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 | | | | | |
| Apartments Mid Rise | 3.28068e+006 | 0.02 | 0.15 | 0.06 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 175.07 | 175.07 | 0.00 | 0.00 | 176.13 |
| Parking Structure | 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 |
| Strip Mall | 17425 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.93 | 0.93 | 0.00 | 0.00 | 0.94 |
| **Total** | | **0.02** | **0.15** | **0.06** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **176.00** | **176.00** | **0.00** | **0.00** | **177.07** |

### 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 | | | |
| Apartments Mid Rise | 962296 | | | | | 183.64 | 0.00 | 0.00 | 184.63 |
| Parking Structure | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 108800 | | | | | 20.76 | 0.00 | 0.00 | 20.87 |
| **Total** | | | | | | **204.40** | **0.00** | **0.00** | **205.50** |

**Mitigated**

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| Apartments Mid Rise | 962296 | | | | | 183.64 | 0.00 | 0.00 | 184.63 |
| Parking Structure | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 108800 | | | | | 20.76 | 0.00 | 0.00 | 20.87 |
| **Total** | | | | | | **204.40** | **0.00** | **0.00** | **205.50** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior
Use Low VOC Paint - Residential Exterior
Use Low VOC Paint - Non-Residential Interior
Use Low VOC Paint - Non-Residential Exterior
No Hearths Installed

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 1.97 | 0.05 | 4.19 | 0.00 | | 0.00 | 0.02 | | 0.00 | 0.02 | 0.00 | 6.82 | 6.82 | 0.01 | 0.00 | 6.96 |
| Unmitigated | 2.99 | 0.07 | 5.91 | 0.00 | | 0.00 | 0.29 | | 0.00 | 0.29 | 29.10 | 174.60 | 203.70 | 0.10 | 0.00 | 206.96 |
| **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 | 0.32 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 1.64 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.91 | 0.02 | 1.72 | 0.00 | | 0.00 | 0.27 | | 0.00 | 0.27 | 29.10 | 167.78 | 196.89 | 0.09 | 0.00 | 200.00 |
| Landscaping | 0.13 | 0.05 | 4.19 | 0.00 | | 0.00 | 0.02 | | 0.00 | 0.02 | 0.00 | 6.82 | 6.82 | 0.01 | 0.00 | 6.96 |
| **Total** | **3.00** | **0.07** | **5.91** | **0.00** | | **0.00** | **0.29** | | **0.00** | **0.29** | **29.10** | **174.60** | **203.71** | **0.10** | **0.00** | **206.96** |

### 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 | 0.20 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 1.64 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.13 | 0.05 | 4.19 | 0.00 | | 0.00 | 0.02 | | 0.00 | 0.02 | 0.00 | 6.82 | 6.82 | 0.01 | 0.00 | 6.96 |
| **Total** | **1.97** | **0.05** | **4.19** | **0.00** | | **0.00** | **0.02** | | **0.00** | **0.02** | **0.00** | **6.82** | **6.82** | **0.01** | **0.00** | **6.96** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet
Install Low Flow Kitchen Faucet
Install Low Flow Toilet
Install Low Flow Shower
Use Water Efficient Irrigation System

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 60.08 | 0.45 | 0.01 | 73.35 |
| Unmitigated | | | | | 70.81 | 0.56 | 0.02 | 87.38 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 7.2 Water by Land Use

### Unmitigated

| | Indoor/Outdoor | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| Apartments Mid Rise | 17.8522 / 11.2546 | | | | | 68.42 | 0.55 | 0.01 | 84.42 |
| Parking Structure | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 0.629616 / | | | | | 2.39 | 0.02 | 0.00 | 2.95 |
| **Total** | | | | | | **70.81** | **0.57** | **0.01** | **87.37** |

### Mitigated

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| Apartments Mid Rise | 14.2818 / 10.5681 | | | | | 58.05 | 0.44 | 0.01 | 70.87 |
| Parking Structure | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 0.503693 / | | | | | 2.03 | 0.02 | 0.00 | 2.48 |
| **Total** | | | | | | **60.08** | **0.46** | **0.01** | **73.35** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

### Category/Year

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 13.70 | 0.81 | 0.00 | 30.70 |
| Unmitigated | | | | | 27.40 | 1.62 | 0.00 | 61.40 |
| **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 | | | |
| Apartments Mid Rise | 126.04 | | | | | 25.58 | 1.51 | 0.00 | 57.34 |
| Parking Structure | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 8.93 | | | | | 1.81 | 0.11 | 0.00 | 4.06 |
| **Total** | | | | | | **27.39** | **1.62** | **0.00** | **61.40** |

### Mitigated

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| Apartments Mid Rise | 63.02 | | | | | 12.79 | 0.76 | 0.00 | 28.67 |
| Parking Structure | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 4.465 | | | | | 0.91 | 0.05 | 0.00 | 2.03 |
| **Total** | | | | | | **13.70** | **0.81** | **0.00** | **30.70** |

# 9.0 Vegetation