

**Road Construction Emissions Model
Data Entry Worksheet**

Version 5.2



Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C28.

| | | |
|---|------------------------|--|
| Input Type | | |
| Project Name | Rio-Pipe Laying (GSWC) | |
| Construction Start Year | 2008 | Enter a Year between 2000 and 2010 inclusive |
| Project Type | 1 | 1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction |
| Project Construction Time | 5 | months |
| Predominate Soil/Site Type: Enter 1, 2, or 3 | 1 | 1. Sand Gravel 2. Weathered Rock/Earth 3. Blasted Rock |
| On-Road Emission Factors: Enter 1, 2, 3, or 4 | 4 | 1. Emfac7v1.1 4. Emfac2002 (default) 2. Emfac7G 3. Emfac2001 |
| Project Length | 1.85 | miles |
| Total Project Area | | acres |
| Maximum Area Disturbed/Day | | acres |
| Water Trucks Used? | 2 | 1. Yes 2. No |
| Soil Imported | | yd ³ /day |
| Soil Exported | | yd ³ /day |
| Average Truck Capacity | 20 | yd ³ (assume 20 if unknown) |

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C37 through C40.

| Construction Periods | User Override of | | Program Calculated | | 2009 | % | 2001 | % | 2002 | % | 2003 |
|------------------------------|---------------------|-------------|--------------------|------|------|------|------|------|------|------|------|
| | Construction Months | Months | 2000 | 2001 | | | | | | | |
| Grubbing/Land Clearing | 5.00 | 0.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grading/Excavation | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drainage/Utilities/Sub-Grade | 0.00 | 1.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | 0.00 | 0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Totals | 5.00 | 5.00 | | | | | | | | | |

Hauling emission default values can be overridden in cells C48 through C50.

| User Input | User Override of | | Default Values | 30 | 2 | 32 |
|---|-----------------------|----------------|----------------|-------------|---|----|
| | Soil Hauling Defaults | Default Values | | | | |
| Miles/round trip | 30 | 30 | | | | |
| Round trips/day | 2 | 0 | | | | |
| Vehicle miles traveled/day (calculated) | | 60 | | | | |
| Hauling Emissions | ROG | NOx | CO | PM10 | | |
| Emission rate (grams/mile) | 0.65 | 7.23 | 6.11 | 0.24 | | |
| Pounds per day | 0.1 | 1.0 | 0.6 | 0.0 | | |
| Tons per construction period | 0.00 | 0.00 | 0.00 | 0.00 | | |

Worker commute default values can be overridden in cells C62 through C67.

| Worker Commute Emissions | User Override of Worker | | Default Values | 20 | 2 | 20 | 0 | 0 | 0 | 0 | 42 |
|--|-------------------------|----------------|----------------|-------------|---|----|---|---|---|---|----|
| | Commute Default Values | Default Values | | | | | | | | | |
| Miles/one-way trip | 20 | 20 | | | | | | | | | |
| One-way trips/day | 2 | 2 | | | | | | | | | |
| No. of employees: Grubbing/Land Clearing | 20 | 5 | | | | | | | | | |
| No. of employees: Grading/Excavation | 0 | 5 | | | | | | | | | |
| No. of employees: Drainage/Utilities/Sub-Grade | 0 | 5 | | | | | | | | | |
| No. of employees: Paving | 0 | 5 | | | | | | | | | |
| Emission rate (grams/mile) | ROG | NOx | CO | PM10 | | | | | | | |
| Emission rate (grams/mile) | 0.24 | 0.62 | 5.10 | 0.04 | | | | | | | |
| Emission rate (grams/trip) | 1.37 | 0.62 | 13.67 | 0.02 | | | | | | | |
| Pounds per day - Grubbing/Land Clearing | 0.7 | 0.1 | 11.4 | 0.1 | | | | | | | |
| Tons per const. Period - Grub/Land Clear | 0.0 | 0.0 | 0.6 | 0.0 | | | | | | | |
| Pounds per day - Grading/Excavation | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | | |
| Tons per const. Period - Grading/Excavation | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | | |
| Pounds per day - Drainage/Utilities/Sub-Grade | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | | |
| Tons per const. Period - Drain/Util/Sub-Grade | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | | |
| Pounds per day - Paving | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | | |
| Tons per const. Period - Paving | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | | |
| Tons per construction period | 0.0 | 0.0 | 0.6 | 0.0 | | | | | | | |

Water truck default values can be overridden in cells C87 through C89 and E87 through E89.

| Water Truck Emissions | Number of Water Trucks | Program Estimate of | User Override of Water | Default Values | 0 | 0 | 0 |
|----------------------------------|------------------------|------------------------|------------------------|--------------------|---|---|---|
| | | Number of Water Trucks | Truck Miles Traveled | Miles Traveled/Day | | | |
| Grubbing/Land Clearing - Exhaust | | 0 | | 0 | | | |
| Grading/Excavation - Exhaust | | 0 | | 0 | | | |
| Drainage/Utilities/Subgrade | | 0 | | 0 | | | |

| | ROG | NOx | CO | PM10 |
|--|------|------|------|------|
| Emission rate (grams/mile) | 0.65 | 7.23 | 6.11 | 0.24 |
| Pounds per day - Grubbing/Land Clearing | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Grub/Land Clear | 0.00 | 0.00 | 0.00 | 0.00 |
| Pound per day - Grading/Excavation | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Grading/Excavation | 0.00 | 0.00 | 0.00 | 0.00 |
| Pound per day - Drainage/Utilities/Subgrade | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Drainage/Utilities/Subgrade | 0.00 | 0.00 | 0.00 | 0.00 |

Fugitive dust default values can be overridden in cells C104 and C105.

| | User Override of Max | | Default | |
|---|----------------------|---------------------|------------|-------------|
| | Acreage/Day | Maximum Acreage/Day | pounds/day | tons/period |
| Fugitive Dust - Grubbing/Land Clearing | | 0 | 0.0 | 0.0 |
| Fugitive Dust - Grading/Excavation | | 0 | 0.0 | 0.0 |
| Fugitive Dust - Drainage/Utilities/Subgrade | | 0 | 0.0 | 0.0 |

Off road equipment default number of vehicles can be overridden in cells B115 through B224.

| Off-Road Equipment Emissions | | | | | | |
|--|--------------------|---------------------------|------------|------------|------------|------------|
| Grubbing/Land Clearing | | Default | ROG | CO | NOx | PM10 |
| Override of Default Number of Vehicles | Number of Vehicles | Type | pounds/day | pounds/day | pounds/day | pounds/day |
| 1 | Program-estimate | Backhoes | 0.67 | 2.40 | 4.54 | 0.26 |
| | | Bore/Drill Rigs | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Concrete/Industrial Saws | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | | Compactor | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Cranes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crawler Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crushing/Proc. Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Dozer | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | | Excavator | 1.84 | 6.34 | 6.47 | 0.34 |
| | | Forklifts, Rough Terrain | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Grader | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | | Loaders, Rubber Tired | 0.82 | 4.50 | 7.01 | 0.38 |
| 1 | | Off-Highway Trucks | 3.60 | 13.62 | 13.98 | 0.72 |
| | | Other Construction Equip. | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | | Pavers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Paving Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Rollers | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Scraper | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 4 | Signal Boards | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Skid Steer Loaders | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Surfacing Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Trenchers | 0.00 | 0.00 | 0.00 | 0.00 |
| pounds per day | | | 7.0 | 26.9 | 32.0 | 1.8 |
| tons per period | | | 0.4 | 1.5 | 1.8 | 0.1 |
| Grading/Excavation | | Number of Vehicles | ROG | CO | NOx | PM10 |
| Override of Default Number of Vehicles | Program-estimate | Type | pounds/day | pounds/day | pounds/day | pounds/day |
| 0 | | Backhoes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Bore/Drill Rigs | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Concrete/Industrial Saws | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | | Compactor | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | | Cranes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crawler Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crushing/Proc. Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Dozer | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Excavator | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Forklifts, Rough Terrain | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Grader | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Loaders, Rubber Tired | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Off-Highway Trucks | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Other Construction Equip. | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Pavers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Paving Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Rollers | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Scraper | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 4 | Signal Boards | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Skid Steer Loaders | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Surfacing Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Trenchers | 0.00 | 0.00 | 0.00 | 0.00 |
| max pounds per day | | | 0.0 | 0.0 | 0.0 | 0.0 |
| tons per period | | | 0.0 | 0.0 | 0.0 | 0.0 |
| Drainage/Utilities/Subgrade | | Number of Vehicles | ROG | CO | NOx | PM10 |
| Override of Default Number of Vehicles | Program-estimate | Type | pounds/day | pounds/day | pounds/day | pounds/day |
| | | Backhoes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Bore/Drill Rigs | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Concrete/Industrial Saws | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Compactor | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Cranes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crawler Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crushing/Proc. Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Dozer | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | |
|---|--|---------------------------|---------------------------|------------|------------|------------|------------|
| | | Excavator | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Forklifts, Rough Terrain | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0 | Grader | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Loaders, Rubber Tired | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Off-Highway Trucks | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Other Construction Equip. | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Pavers | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Paving Equipment | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Rollers | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0 | Scraper | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0 | Signal Boards | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Skid Steer Loaders | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Surfacing Equipment | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | Tractors | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0 | Trenchers | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | max pounds per day | 0.0 | 0.0 | 0.0 | 0.0 | |
| | | tons per period | 0.0 | 0.0 | 0.0 | 0.0 | |
| Paving | | | | | | | |
| | | Number of Vehicles | ROG | CO | NOx | PM10 | |
| | Override of Default Number of Vehicles | Program-estimate | Type | pounds/day | pounds/day | pounds/day | pounds/day |
| | | | Backhoes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Bore/Drill Rigs | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Concrete/Industrial Saws | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Compactor | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Cranes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Crawler Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Crushing/Proc. Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Dozer | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Excavator | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Forklifts, Rough Terrain | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Grader | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Loaders, Rubber Tired | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Off-Highway Trucks | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Other Construction Equip. | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0 | Pavers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0 | Paving Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0 | Rollers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Scraper | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | 4 | Signal Boards | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Skid Steer Loaders | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Surfacing Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | Trenchers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | pounds per day | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | tons per period | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Emissions (tons per construction period) | | | 0.4 | 1.5 | 1.8 | 0.1 | |

4

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C235 through C256, E235 through E256, and G235 through G256.

| Equipment | Default Values | | Default Values | | Default Values | |
|------------------------------|----------------|--|----------------|--|----------------|--|
| | Horsepower | | Load Factor | | Hours/day | |
| Bore/Drill Rigs | 218 | | 0.75 | | 8 | |
| Concrete/Industrial Saws | 94 | | 0.73 | | 8 | |
| Cranes | 190 | | 0.43 | | 8 | |
| Crawler Tractors | 143 | | 0.575 | | 8 | |
| Crushing/Proc. Equipment | 154 | | 0.78 | | 8 | |
| Excavators | 180 | | 0.58 | | 8 | |
| Graders | 174 | | 0.575 | | 8 | |
| Off-Highway Tractors | 255 | | 0.41 | | 8 | |
| Off-Highway Trucks | 417 | | 0.49 | | 8 | |
| Other Construction Equipment | 190 | | 0.82 | | 8 | |
| Pavers | 132 | | 0.59 | | 8 | |
| Paving Equipment | 111 | | 0.53 | | 8 | |
| Rollers | 114 | | 0.43 | | 8 | |
| Rough Terrain Forklifts | 94 | | 0.475 | | 8 | |
| Rubber Tired Dozers | 352 | | 0.59 | | 8 | |
| Rubber Tired Loaders | 165 | | 0.485 | | 8 | |
| Scrapers | 313 | | 0.66 | | 8 | |
| Signal Boards | 25 | | 0.82 | | 8 | |
| Skid Steer Loaders | 82 | | 0.515 | | 8 | |
| Surfacing Equipment | 437 | | 0.49 | | 8 | |
| Tractors/Loaders/Backhoes | 79 | | 0.485 | | 8 | |
| Trenchers | 82 | | 0.695 | | 8 | |

Default load factors from SCAQMD CEQA Handbook, 1993.

Default horsepower values from Appendix B, California Air Resources Board's Offroad Model (see also Appendix B of this spreadsheet).

Signal board horsepower based on: U.S. EPA, 1998. Final Regulatory Impact Analysis: Control of Emissions from Nonroad Diesel Engines (EPA420-R-98-016).

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83

END OF DATA ENTRY SHEET

Hc

**Road Construction Emissions Model
Data Entry Worksheet**

Version 5.2



Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C28.

Input Type

| | | |
|---|------------------|--|
| Project Name | Rio-Pump Station | |
| Construction Start Year | 2008 | Enter a Year between 2000 and 2010 inclusive |
| Project Type | 1 | 1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction |
| Project Construction Time | 8 | months |
| Predominate Soil/Site Type: Enter 1, 2, or 3 | 1 | 1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock |
| On-Road Emission Factors: Enter 1, 2, 3, or 4 | 4 | 1. Emfac7fv1.1 4. Emfac2002 (default) 2. Emfac7G 3. Emfac2001 |
| Project Length | 0 | miles |
| Total Project Area | | acres |
| Maximum Area Disturbed/Day | | acres |
| Water Trucks Used? | 2 | 1. Yes 2. No |
| Soil Imported | | yd ³ /day |
| Soil Exported | | yd ³ /day |
| Average Truck Capacity | 20 | yd ³ (assume 20 if unknown) |

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C37 through C40.

| Construction Periods | User Override of | | Program Calculated | | 2000 | % | 2001 | % | 2002 | % |
|------------------------------|---------------------|-------------|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Construction Months | Months | Months | Months | | | | | | |
| Grubbing/Land Clearing | 8.00 | 0.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grading/Excavation | 0.00 | 3.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Drainage/Utilities/Sub-Grade | 0.00 | 2.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | 0.00 | 1.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Totals | 8.00 | 8.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Hauling emission default values can be overridden in cells C48 through C50.

| User Input | User Override of | | Default Values | | |
|---|-----------------------|----------------|----------------|----|----|
| | Soil Hauling Defaults | Default Values | | | |
| Miles/round trip | 30 | 30 | | 30 | |
| Round trips/day | 2 | 0 | | 2 | 32 |
| Vehicle miles traveled/day (calculated) | | 60 | | | |

| Hauling Emissions | ROG | NOx | CO | PM10 |
|------------------------------|------|------|------|------|
| Emission rate (grams/mile) | 0.65 | 7.23 | 6.11 | 0.24 |
| Pounds per day | 0.1 | 1.0 | 0.8 | 0.0 |
| Tons per construction period | 0.00 | 0.00 | 0.00 | 0.00 |

Worker commute default values can be overridden in cells C62 through C67.

| Worker Commute Emissions | User Override of Worker | | Default Values | | |
|--|-------------------------|----------------|----------------|----|----|
| | Commute Default Values | Default Values | | | |
| Miles/ one-way trip | 20 | 20 | | 20 | |
| One-way trips/day | 2 | 2 | | 2 | |
| No. of employees: Grubbing/Land Clearing | 20 | 0 | | 20 | |
| No. of employees: Grading/Excavation | 0 | 0 | | 0 | |
| No. of employees: Drainage/Utilities/Sub-Grade | 0 | 0 | | 0 | |
| No. of employees: Paving | 0 | 0 | | 0 | 42 |

| | ROG | NOx | CO | PM10 |
|---|------|------|-------|------|
| Emission rate (grams/mile) | 0.24 | 5.10 | 5.10 | 0.04 |
| Emission rate (grams/trip) | 1.37 | 0.62 | 13.67 | 0.02 |
| Pounds per day - Grubbing/Land Clearing | 0.7 | 0.1 | 11.4 | 0.1 |
| Tons per const. Period - Grub/Land Clear | 0.1 | 0.0 | 1.0 | 0.0 |
| Pounds per day - Grading/Excavation | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Grading/Excavation | 0.0 | 0.0 | 0.0 | 0.0 |
| Pounds per day - Drainage/Utilities/Sub-Grade | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Drain/Util/Sub-Grade | 0.0 | 0.0 | 0.0 | 0.0 |
| Pounds per day - Paving | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Paving | 0.0 | 0.0 | 0.0 | 0.0 |
| tons per construction period | 0.1 | 0.0 | 1.0 | 0.0 |

Water truck default values can be overridden in cells C87 through C89 and E87 through E89.

| Water Truck Emissions | | Program Estimate of | User Override of Water | Default Values |
|--|------|------------------------|------------------------|--------------------|
| | | Number of Water Trucks | Truck Miles Traveled | Miles Traveled/Day |
| Grubbing/Land Clearing - Exhaust | | 0 | | 0 |
| Grading/Excavation - Exhaust | | 0 | | 0 |
| Drainage/Utilities/Subgrade | | 0 | | 0 |
| | ROG | NOx | CO | PM10 |
| Emission rate (grams/mile) | 0.65 | 7.23 | 6.11 | 0.24 |
| Pounds per day - Grubbing/Land Clearing | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Grub/Land Clear | 0.00 | 0.00 | 0.00 | 0.00 |
| Pound per day - Grading/Excavation | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Grading/Excavation | 0.00 | 0.00 | 0.00 | 0.00 |
| Pound per day - Drainage/Utilities/Subgrade | 0.0 | 0.0 | 0.0 | 0.0 |
| Tons per const. Period - Drainage/Utilities/Subgrade | 0.00 | 0.00 | 0.00 | 0.00 |

Fugitive dust default values can be overridden in cells C104 and C105.

| Fugitive PM10 Dust | | User Override of Max | Default | | |
|---|--|----------------------|---------------------|------------|-----------------|
| | | Acreage/Day | Maximum Acreage/Day | pounds/day | tons/per period |
| Fugitive Dust - Grubbing/Land Clearing | | | 0 | 0.0 | 0.0 |
| Fugitive Dust - Grading/Excavation | | | 0 | 0.0 | 0.0 |
| Fugitive Dust - Drainage/Utilities/Subgrade | | | 0 | 0.0 | 0.0 |

Off road equipment default number of vehicles can be overridden in cells B115 through B224.

| Off-Road Equipment Emissions | | | | | | |
|--|------------------|---------------------------|------------|------------|------------|------------|
| Grubbing/Land Clearing | | Default | | | | |
| | | Number of Vehicles | ROG | CO | NOx | PM10 |
| Override of Default Number of Vehicles | Program-estimate | Type | pounds/day | pounds/day | pounds/day | pounds/day |
| 1 | | Backhoes | 0.67 | 2.40 | 4.54 | 0.38 |
| 1 | | Bore/Drill Rigs | 2.87 | 7.47 | 5.75 | 0.43 |
| | | Concrete/Industrial Saws | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | | Compactor | 2.08 | 10.32 | 9.43 | 0.52 |
| | | Cranes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crawler Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crushing/Proc. Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Dozer | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | | Excavator | 1.84 | 6.34 | 6.47 | 0.34 |
| | | Forklifts, Rough Terrain | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | | Grader | 1.20 | 5.64 | 9.73 | 0.53 |
| 0 | | Loaders, Rubber Tired | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | | Off-Highway Trucks | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | | Other Construction Equip. | 2.08 | 10.32 | 9.43 | 0.52 |
| 0 | | Pavers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Paving Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Rollers | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Scraper | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Signal Boards | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Skid Steer Loaders | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Surfacing Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Trenchers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | pounds per day | 10.7 | 42.5 | 45.3 | 2.7 |
| | | tons per period | 0.9 | 3.7 | 4.0 | 0.2 |
| Grading/Excavation | | Number of Vehicles | ROG | CO | NOx | PM10 |
| Override of Default Number of Vehicles | Program-estimate | Type | pounds/day | pounds/day | pounds/day | pounds/day |
| 0 | | Backhoes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Bore/Drill Rigs | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Concrete/Industrial Saws | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | | Compactor | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | Cranes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crawler Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crushing/Proc. Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Dozer | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Excavator | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Forklifts, Rough Terrain | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Grader | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Loaders, Rubber Tired | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Off-Highway Trucks | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Other Construction Equip. | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Pavers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Paving Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Rollers | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | Scraper | 0.00 | 0.00 | 0.00 | 0.00 |
| 0 | 0 | Signal Boards | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | |
|--|--------------------|---------------------------|------------|------------|------------|------------|
| | | Skid Steer Loaders | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Surfacing Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Trenchers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | max pounds per day | 0.0 | 0.0 | 0.0 | 0.0 |
| | | tons per period | 0.0 | 0.0 | 0.0 | 0.0 |
| Drainage/Utilities/Subgrade | | | | | | |
| | Number of Vehicles | | ROG | CO | NOx | PM10 |
| Override of Default Number of Vehicles | Program-estimate | Type | pounds/day | pounds/day | pounds/day | pounds/day |
| | | Backhoes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Bore/Drill Rigs | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Concrete/Industrial Saws | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Compactor | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Cranes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crawler Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crushing/Proc. Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Dozer | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Excavator | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Forklifts, Rough Terrain | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Grader | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Loaders, Rubber Tired | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Off-Highway Trucks | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Other Construction Equip. | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Pavers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Paving Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Rollers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Scraper | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Signal Boards | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Skid Steer Loaders | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Surfacing Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Trenchers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | max pounds per day | 0.0 | 0.0 | 0.0 | 0.0 |
| | | tons per period | 0.0 | 0.0 | 0.0 | 0.0 |
| Paving | | | | | | |
| | Number of Vehicles | | ROG | CO | NOx | PM10 |
| Override of Default Number of Vehicles | Program-estimate | Type | pounds/day | pounds/day | pounds/day | pounds/day |
| | | Backhoes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Bore/Drill Rigs | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Concrete/Industrial Saws | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Compactor | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Cranes | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crawler Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Crushing/Proc. Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Dozer | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Excavator | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Forklifts, Rough Terrain | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Grader | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Loaders, Rubber Tired | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Off-Highway Trucks | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Other Construction Equip. | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Pavers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Paving Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Rollers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Scraper | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Signal Boards | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Skid Steer Loaders | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Surfacing Equipment | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Tractors | 0.00 | 0.00 | 0.00 | 0.00 |
| | | Trenchers | 0.00 | 0.00 | 0.00 | 0.00 |
| | | pounds per day | 0.0 | 0.0 | 0.0 | 0.0 |
| | | tons per period | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Emissions (tons per construction period) | | | 0.9 | 3.7 | 4.0 | 0.2 |

6

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C235 through C256, E235 through E256, and G235 through G256.

| Equipment | Default Values | | Default Values | | Default Values | |
|------------------------------|----------------|--|----------------|--|----------------|--|
| | Horsepower | | Load Factor | | Hours/day | |
| Bore/Drill Rigs | 218 | | 0.75 | | 8 | |
| Concrete/Industrial Saws | 84 | | 0.73 | | 8 | |
| Cranes | 190 | | 0.43 | | 8 | |
| Crawler Tractors | 143 | | 0.575 | | 8 | |
| Crushing/Proc. Equipment | 154 | | 0.78 | | 8 | |
| Excavators | 180 | | 0.58 | | 8 | |
| Graders | 174 | | 0.575 | | 8 | |
| Off-Highway Tractors | 255 | | 0.41 | | 8 | |
| Off-Highway Trucks | 417 | | 0.49 | | 8 | |
| Other Construction Equipment | 190 | | 0.62 | | 8 | |
| Pavers | 132 | | 0.59 | | 8 | |

| | | | |
|---------------------------|-----|-------|---|
| Paving Equipment | 111 | 0.53 | 8 |
| Rollers | 114 | 0.43 | 8 |
| Rough Terrain Forklifts | 94 | 0.475 | 8 |
| Rubber Tired Dozers | 352 | 0.59 | 8 |
| Rubber Tired Loaders | 165 | 0.465 | 8 |
| Scrapers | 313 | 0.66 | 8 |
| Signal Boards | 25 | 0.62 | 8 |
| Skid Steer Loaders | 62 | 0.515 | 8 |
| Surfacing Equipment | 437 | 0.49 | 8 |
| Tractors/Loaders/Backhoes | 79 | 0.465 | 8 |
| Trenchers | 62 | 0.695 | 8 |

Default load factors from SOA/QMD CEQA Handbook, 1993.

Default horsepower values from Appendix B, California Air Resources Board's Offroad Model (see also Appendix B of this spreadsheet).

Signal board horsepower based on: U.S. EPA, 1998. Final Regulatory Impact Analysis: Control of Emissions from Nonroad Diesel Engines (EPA420-R-98-016).

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88

END OF DATA ENTRY SHEET