

January 10, 2017

Stephan Vance, Senior Regional Planner  
San Diego Association of Governments  
401 B Street, Suite 800  
San Diego, CA 92101

**Subject: Air Quality and Greenhouse Gas Emissions Technical Analysis for the San Diego River Trail – Carlton Oaks Golf Course Segment Project**

Dear Mr. Vance:

This letter summarizes the air quality and greenhouse gas (GHG) emissions analysis for the proposed San Diego River Trail (SDRT) – Carlton Oaks Golf Course Segment Project (project). The San Diego Association of Governments (SANDAG) proposes to construct the Carlton Oaks Golf Course Segment of the San Diego River Trail (SDRT) within the cities of San Diego and Santee (the proposed project). The proposed project would consist of a Class I bikeway for the exclusive use of people walking and riding bikes and related physical improvements. It would extend a distance of approximately two miles between Carlton Hills Boulevard and West Hills Parkway through Mast Park, Mast Park West, a portion of the Carlton Oaks Golf Course, and adjacent to the southern edge of the golf course.

Specifically, the proposed project would extend westward from the Mast Park parking lot, under the Carlton Hills Boulevard bridge, and along the existing dirt trail that continues westward for approximately 0.5 mile through Mast Park West and terminates at the Carlton Oaks Golf Course. West of the terminus of the existing dirt trail, the proposed project would generally be constructed on or adjacent to the existing berm along the southern edge of the golf course for a distance of approximately 1.5 miles before its terminus at the existing sidewalk along West Hills Parkway. In general, the proposed project would include a 10-foot-wide paved bike path with 2-foot-wide pervious shoulders. Near the west end, the proposed project would install a bridge or similar structure to cross Sycamore Creek. Additional physical improvements could include installation of fencing, pedestrian-scaled lighting for safety, slope protection in slope areas south of the existing berm in which erosion is evident, removal and replacement of low flow drainage crossings along Mast Park West, revegetation of slopes, restoration of disturbed areas within the golf course, retaining walls, and other minor improvements.

Construction of the project is estimated to begin in late 2018 and take approximately 12 months to complete. Construction staging is anticipated to occur within the golf course and will avoid sensitive biological resources. Access during construction could be provided from West Hills Parkway; an existing dirt road within a utility easement along the eastern boundary of the golf course accessible from Carlton Oaks Drive; and/or from the parking lot at Mast Park, which could require excavation under the Carlton Hills Boulevard bridge to provide adequate vertical clearance for construction equipment, and along the existing dirt trail in Mast Park West. Some construction access points would require a temporary construction easement or other permission/agreement from property owners before they could be used for construction access. Project grading would require approximately 10,000 cubic yards of fill to be imported to the site.

**Methodology and Assumptions**

Criteria air pollutant and GHG emissions resulting from construction of the proposed project were quantified using the Road Construction Emissions Model (Roadway Model) Version, 8.1.0, developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD). The Roadway Model contains OFFROAD2011 emission factors and EMFAC2014 emission factors from the California Air Resources Board’s (CARB’s) models for off-road equipment and on-road vehicles (SMAQMD 2016). Emissions modeling conservatively assumes construction of the east Phase and west Phase would occur simultaneously. Because the proposed project is a bikeway that would support walking and biking, it would not increase long-term air pollutant or GHG emissions in the project area, and therefore operational emissions were not modeled. By supporting walking and biking, the proposed project would contribute to lower air pollutant and GHG emissions by decreasing passenger vehicle use and vehicle miles traveled.

The analysis assumes that total construction duration would be approximately one year and project grading would require approximately 10,000 cubic yards of fill material to be imported to the project site. For purposes of calculating air and GHG emissions during construction of the proposed project, construction of the east phase and west phase is divided into the following types of construction activities: grubbing/land clearing, grading/excavation, drainage/utilities/sub-grade, and paving. Sources of construction air pollutant and GHG emissions include: off-road diesel equipment exhaust, construction worker commuting and soil hauling vehicle exhaust, re-entrained paved road dust, and fugitive dust from land clearing.

Table 1 presents the type and amount of construction equipment and vehicles that would be used during each type of construction activity for the east phase and west phase of project construction. A complete listing of the assumptions used in the analysis and the model outputs are provided in Attachment A.

<b>Table 1 CONSTRUCTION EQUIPMENT ASSUMPTIONS BY PHASE</b>			
<b>Construction Activity and Equipment/Vehicle Type</b>	<b>Number of Pieces<sup>1</sup></b>		<b>Horsepower<sup>2</sup></b>
	<b>East Phase</b>	<b>West Phase</b>	
<b>Grubbing/Land Clearing</b>			
Crawler Tractors	1	1	208
Excavators	1	1	163
Signal Boards	2	2	20
<b>Grading/Excavation</b>			
Cranes	1	1	226
Crawler Tractors	1	1	208
Excavators	2	2	163
Rollers	1	1	81
Rubber Tired Loaders	1	1	200
Signal Boards	2	2	20
Tractors/Loaders/Backhoes	2	2	98

<b>Table 1 (cont.) CONSTRUCTION EQUIPMENT ASSUMPTIONS BY PHASE</b>			
<b>Construction Activity and Equipment/Vehicle Type</b>	<b>Number of Pieces<sup>1</sup></b>		<b>Horsepower<sup>2</sup></b>
<b>Drainage/Utilities/Subgrade</b>			
Air Compressors	1	1	106
Generator Sets	1	1	66
Plate Compactors	1	1	8
Pumps	1	1	53
Signal Boards	2	2	20
Tractors/Loaders/Backhoes	2	2	98
<b>Paving</b>			
Pavers	1	1	126
Paving Equipment	1	1	131
Rollers	1	1	81
Signal Boards	2	2	20
Tractors/Loaders/Backhoes	1	1	98

Notes:

<sup>1</sup> Amount of equipment was received from Nasland Engineering, the project's design engineer (pers. comm. 2016).

<sup>2</sup> Equipment horsepower contained in Roadway Model.

### **Criteria Air Pollutant Emissions**

Construction of the proposed project would generate short-term criteria air pollutant emissions, including Reactive Organic Gases (ROG), Oxides of Nitrogen (NO<sub>x</sub>), carbon monoxide (CO), and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). An estimate of the maximum daily emissions of each criteria air pollutant during each proposed project construction phase is presented in Table 2.

The San Diego Air Pollution Control District (SDAPCD) does not provide quantitative thresholds for determining the significance of construction or mobile source-related air quality or GHG impacts under the California Environmental Quality Act (CEQA). However, the district does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources (APCD Rules 20.2 and 20.3). If these incremental levels for stationary sources are exceeded, an AQIA must be performed for the proposed new or modified source. Although these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes these levels may be used to evaluate the increased emissions which would be discharged to the San Diego Air Basin from proposed land development projects.

SDAPCD Rule 20.2, which outlines these screening level thresholds, states that any project "which results in an emissions increase equal to or greater than any of these levels, must:

*"demonstrate through an AQIA ... that the project will not (A) cause a violation of a State or national ambient air quality standard anywhere that does not already exceed such standard, nor (B) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor*

*(C) cause additional violations of a State ambient air quality standard anywhere the standard is already being exceeded, nor (D) prevent or interfere with the attainment or maintenance of any State or national ambient air quality standard.”*

For projects whose stationary-source emissions are below these criteria, no AQIA is typically required.

While these thresholds were intended for stationary sources of emissions, SANDAG has determined that they are appropriate to use for evaluating the proposed project’s construction air pollutant emissions (e.g., stationary and fugitive emissions, as well as emissions from mobile sources). The hourly and yearly screening level thresholds are most appropriately used in situations when temporary emissions like emergency generators or other stationary sources are proposed as a part of a project. The daily screening level thresholds are most appropriately used for the standard construction and operational emissions. When project emissions have the potential to approach or exceed the screening level thresholds, additional air quality modeling may need to be prepared to demonstrate that ground level concentrations resulting from project emissions (with background levels) will be below Federal and State Ambient Air Quality Standards. Therefore, emissions associated with construction of the proposed project were compared to SDAPCD’s AQIA Trigger Levels as contained within SDAPCD Regulation II, Rule 20.2. As shown in Table 2, criteria pollutant emissions associated with project construction would be below these levels.

<b>Table 2 ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS</b>					
<b>Construction Activity</b>	<b>Pollutant Emissions (pounds per day)</b>				
	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Grubbing/Land Clearing	2.4	28.0	15.1	3.7	1.6
Grading/Excavation	7.3	82.4	45.0	6.6	4.2
Drainage/Utilities/Sub-Grade	4.9	38.4	33.0	5.2	3.2
Paving	2.9	28.2	22.4	1.7	1.6
<b>Maximum Daily Emissions</b>	<b>7.3</b>	<b>82.4</b>	<b>45.0</b>	<b>6.6</b>	<b>4.2</b>
SDAPCD Trigger Levels	137	250	550	100	55

Source: Roadway Model emissions modeling by HELIX 2016 (output data is provided in Attachment A).

**Greenhouse Gas Emissions**

In addition to criteria air pollutants, proposed project construction also would generate GHG emissions associated with off-road diesel equipment exhaust, and from worker and truck trips to and from the project site. The primary emissions would be CO<sub>2</sub> from gasoline and diesel combustion, with more limited vehicle tailpipe emissions of N<sub>2</sub>O and CH<sub>4</sub>. Emissions of GHG are presented in carbon dioxide equivalents (CO<sub>2</sub>e), which is a metric used to compare the emissions from various GHGs based on their global warming potential. The CO<sub>2</sub>e of a gas is determined by multiplying the tons of that gas by its global warming potential. Total GHG

emissions during project construction (east phase and west phase) are presented in Table 3. These construction GHG emissions estimates will be used to support preparation of the proposed project's CEQA documentation.

<b>Table 3 CONSTRUCTION GHG EMISSIONS (MT/yr)</b>	
<b>Construction Activity</b>	<b>CO<sub>2</sub>e</b>
Grubbing/Land Clearing	40.7
Grading/Excavation	511.8
Drainage/Utilities/Sub-Grade	191.5
Paving	66.0
<b>TOTAL</b>	<b>810.0</b>

Source: Roadway Model emissions modeling by HELIX 2016 (output data is provided in Attachment A).

Sincerely,



Amy Mila de la Roca  
Air Quality Specialist  
HELIX Environmental Planning, Inc.

**Attachment**

Attachment A: Roadway Model Emissions

## **References**

California Air Pollution Control Officers Association (CAPCOA). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January. Available at: <http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf>.

Nasland Engineering. 2016. Email communication between Waisbord, S. and Belzman, T. of HELIX Environmental Planning, Inc. October 10.

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2016. Road Construction Emissions Model, Version 8.1.0. Available: [http://www.airquality.org/LandUseTransportation/Documents/RoadConstructionEmissionsModelVer8\\_1\\_0\\_locked\\_05262016.xls](http://www.airquality.org/LandUseTransportation/Documents/RoadConstructionEmissionsModelVer8_1_0_locked_05262016.xls). May.

San Diego Association of Governments (SANDAG). 2015. *San Diego Forward: The Regional Plan*. Available at: <http://www.sdfoward.com>.

2010 *Riding to 2050, the San Diego Regional Bicycle Plan*.



Attachment A

ROADWAY MODEL EMISSIONS



Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> SDRT - Carlton Oaks Golf Course														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	2.41	15.11	27.99	3.70	1.20	2.50	1.60	1.08	0.52	0.03	3,364.84	0.85	0.04	3,396.74
Grading/Excavation	7.32	44.97	82.39	6.59	4.09	2.50	4.24	3.72	0.52	0.09	9,404.67	2.48	0.10	9,498.00
Drainage/Utilities/Sub-Grade	4.91	33.02	38.36	5.24	2.74	2.50	3.16	2.64	0.52	0.06	5,296.52	0.72	0.05	5,329.13
Paving	2.87	22.40	28.17	1.70	1.70	0.00	1.55	1.55	0.00	0.04	3,640.40	0.93	0.04	3,675.13
Maximum (pounds/day)	7.32	44.97	82.39	6.59	4.09	2.50	4.24	3.72	0.52	0.09	9,404.67	2.48	0.10	9,498.00
Total (tons/construction project)	0.72	4.62	7.34	0.68	0.40	0.28	0.43	0.37	0.06	0.01	884.88	0.21	0.01	892.82

Notes:  
 Project Start Year -> 2017  
 Project Length (months) -> 12  
 Total Project Area (acres) -> 15  
 Maximum Area Disturbed/Day (acres) -> 0  
 Water Truck Used? -> Yes

Phase	Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	400	40
Grading/Excavation	200	0	200	0	400	40
Drainage/Utilities/Sub-Grade	0	0	0	0	400	40
Paving	0	0	0	0	400	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> SDRT - Carlton Oaks Golf Course														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.03	0.20	0.37	0.05	0.02	0.03	0.02	0.01	0.01	0.00	44.42	0.01	0.00	40.68
Grading/Excavation	0.43	2.67	4.89	0.39	0.24	0.15	0.25	0.22	0.03	0.01	558.64	0.15	0.01	511.82
Drainage/Utilities/Sub-Grade	0.19	1.31	1.52	0.21	0.11	0.10	0.13	0.10	0.02	0.00	209.74	0.03	0.00	191.45
Paving	0.06	0.44	0.56	0.03	0.03	0.00	0.03	0.03	0.00	0.00	72.08	0.02	0.00	66.01
Maximum (tons/phase)	0.43	2.67	4.89	0.39	0.24	0.15	0.25	0.22	0.03	0.01	558.64	0.15	0.01	511.82
Total (tons/construction project)	0.72	4.62	7.34	0.68	0.40	0.28	0.43	0.37	0.06	0.01	884.88	0.21	0.01	809.96

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.




### Road Construction Emissions Model Data Entry Worksheet

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 D10 through D24, E28 through G35, and D38 through D41 for all project types.  
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

**Version 8.1.0**

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.



**Input Type**

Project Name	SDRT - Carlton Oaks Golf Course	
Construction Start Year	2017	Enter a Year between 2014 and 2025 (inclusive)
Project Type	1	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	12.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 <span style="font-size: x-small; color: red;">(for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)</span>	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the lone formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	2.10	miles
Total Project Area	15.00	acres
Maximum Area Disturbed/Day	0.25	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

[http://www.conservation.ca.gov/cgs/information/geologic\\_mapping/Pages/googlemaps.aspx#regionalseries](http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries)

**Material Hauling Quantity Input**

Material Type	Phase	Haul Truck Capacity (yd <sup>3</sup> ) (assume 20 if unknown)	Import Volume (yd <sup>3</sup> /day)	Export Volume (yd <sup>3</sup> /day)
Soil	Grubbing/Land Clearing			
	Grading/Excavation	20.00	200.00	
	Drainage/Utilities/Sub-Grade			
	Paving			
Asphalt	Grubbing/Land Clearing			
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving			

**Mitigation Options**

On-road Fleet Emissions Mitigation	
Off-road Equipment Emissions Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure ( <a href="http://www.airquality.org/ceqa/mitigation.shtml">http://www.airquality.org/ceqa/mitigation.shtml</a> ). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

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 D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		1.20		1/1/2017
Grading/Excavation		5.40		2/7/2017
Drainage/Utilities/Sub-Grade		3.60		7/22/2017
Paving		1.80		11/9/2017
<b>Totals (Months)</b>		12		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT					
<b>User Input</b>										
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00					
Miles/round trip: Grading/Excavation	20.00	30.00		10	200.00					
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00					
Miles/round trip: Paving		30.00		0	0.00					
<b>Emission Rates</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>PM10</b>	<b>PM2.5</b>	<b>SOx</b>	<b>CO2</b>	<b>CH4</b>	<b>N2O</b>	<b>CO2e</b>
Grubbing/Land Clearing (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Grading/Excavation (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Draining/Utilities/Sub-Grade (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Paving (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,603.55	0.00	0.05	1,619.35
<b>Hauling Emissions</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>PM10</b>	<b>PM2.5</b>	<b>SOx</b>	<b>CO2</b>	<b>CH4</b>	<b>N2O</b>	<b>CO2e</b>
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.03	0.16	0.68	0.05	0.02	0.01	707.36	0.00	0.02	714.32
Tons per const. Period - Grading/Excavation	0.00	0.01	0.04	0.00	0.00	0.00	42.02	0.00	0.00	42.43
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.01	0.04	0.00	0.00	0.00	42.02	0.00	0.00	42.43

Note: Asphalt Hauling emission default values can be overridden in cells D87 through D90, and F87 through F90.

Asphalt Hauling Emissions	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT					
<b>User Input</b>										
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00					
Miles/round trip: Grading/Excavation		30.00		0	0.00					
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00					
Miles/round trip: Paving		30.00		0	0.00					
<b>Emission Rates</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>PM10</b>	<b>PM2.5</b>	<b>SOx</b>	<b>CO2</b>	<b>CH4</b>	<b>N2O</b>	<b>CO2e</b>
Grubbing/Land Clearing (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Grading/Excavation (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Draining/Utilities/Sub-Grade (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Paving (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,603.55	0.00	0.05	1,619.35
<b>Emissions</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>PM10</b>	<b>PM2.5</b>	<b>SOx</b>	<b>CO2</b>	<b>CH4</b>	<b>N2O</b>	<b>CO2e</b>
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Worker commute default values can be overridden in cells D113 through D118.

Worker Commute Emissions											
User Input	User Override of Worker Commute Default Values		Default Values		Calculated Daily Trips	Calculated Daily VMT					
Miles/ one-way trip			20								
One-way trips/day			2								
No. of employees: Grubbing/Land Clearing	10		9		20						
No. of employees: Grading/Excavation	10		22		20						
No. of employees: Drainage/Utilities/Sub-Grade	10		19		20						
No. of employees: Paving	10		15		20						
Emission Rates											
	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Grubbing/Land Clearing (grams/mile)	0.04	1.51	0.17	0.05	0.02	0.00	403.73	0.01	0.01	406.12	
Grading/Excavation (grams/mile)	0.04	1.51	0.17	0.05	0.02	0.00	403.73	0.01	0.01	406.12	
Draining/Utilities/Sub-Grade (grams/mile)	0.04	1.51	0.17	0.05	0.02	0.00	403.73	0.01	0.01	406.12	
Paving (grams/mile)	0.04	1.50	0.17	0.05	0.02	0.00	403.24	0.01	0.01	405.61	
Grubbing/Land Clearing (grams/trip)	1.28	3.62	0.30	0.00	0.00	0.00	89.60	0.02	0.01	93.79	
Grading/Excavation (grams/trip)	1.28	3.62	0.30	0.00	0.00	0.00	89.60	0.02	0.01	93.79	
Draining/Utilities/Sub-Grade (grams/trip)	1.28	3.62	0.30	0.00	0.00	0.00	89.60	0.02	0.01	93.79	
Paving (grams/trip)	1.28	3.60	0.30	0.00	0.00	0.00	89.51	0.02	0.01	93.67	
Emissions											
	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Pounds per day - Grubbing/Land Clearing	0.09	1.49	0.16	0.04	0.02	0.00	359.98	0.01	0.01	362.27	
Tons per const. Period - Grubbing/Land Clearing	0.00	0.02	0.00	0.00	0.00	0.00	4.75	0.00	0.00	4.78	
Pounds per day - Grading/Excavation	0.09	1.49	0.16	0.04	0.02	0.00	359.98	0.01	0.01	362.27	
Tons per const. Period - Grading/Excavation	0.01	0.09	0.01	0.00	0.00	0.00	21.38	0.00	0.00	21.52	
Pounds per day - Drainage/Utilities/Sub-Grade	0.09	1.49	0.16	0.04	0.02	0.00	359.98	0.01	0.01	362.27	
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.06	0.01	0.00	0.00	0.00	14.26	0.00	0.00	14.35	
Pounds per day - Paving	0.09	1.48	0.16	0.04	0.02	0.00	359.54	0.01	0.01	361.82	
Tons per const. Period - Paving	0.00	0.03	0.00	0.00	0.00	0.00	7.12	0.00	0.00	7.16	
Total tons per construction project	0.01	0.20	0.02	0.01	0.00	0.00	47.51	0.00	0.00	47.81	

Note: Water Truck default values can be overridden in cells D145 through D148, and F145 through F148.

Water Truck Emissions										
User Input	User Override of Default # Water Trucks		Program Estimate of Number of Water Trucks		User Override of Truck Miles Traveled/Vehicle/Day		Default Values Miles Traveled/Vehicle/Day		Calculated Daily VMT	
Grubbing/Land Clearing - Exhaust			1				40.00			40.00
Grading/Excavation - Exhaust			1				40.00			40.00
Drainage/Utilities/Subgrade			1				40.00			40.00
Paving			1				40.00			40.00
Emission Rates										
	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Grading/Excavation (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Draining/Utilities/Sub-Grade (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,604.26	0.00	0.05	1,620.06
Paving (grams/mile)	0.07	0.35	1.54	0.10	0.04	0.02	1,603.55	0.00	0.05	1,619.35
Emissions										
	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.01	0.03	0.14	0.01	0.00	0.00	141.47	0.00	0.00	142.86
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	1.87	0.00	0.00	1.89
Pounds per day - Grading/Excavation	0.01	0.03	0.14	0.01	0.00	0.00	141.47	0.00	0.00	142.86
Tons per const. Period - Grading/Excavation	0.00	0.00	0.01	0.00	0.00	0.00	8.40	0.00	0.00	8.49
Pounds per day - Drainage/Utilities/Sub-Grade	0.01	0.03	0.14	0.01	0.00	0.00	141.47	0.00	0.00	142.86
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	5.60	0.00	0.00	5.66
Pounds per day - Paving	0.01	0.03	0.14	0.01	0.00	0.00	141.41	0.00	0.00	142.80
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	2.80	0.00	0.00	2.83
Total tons per construction project	0.00	0.00	0.02	0.00	0.00	0.00	18.67	0.00	0.00	18.86

Note: Fugitive dust default values can be overridden in cells D171 through D173.

Fugitive Dust	User Override of Max Acreage Disturbed/Day		Default Maximum Acreage/Day		PM10	PM10	PM2.5	PM2.5
					pounds/day	tons/per period	pounds/day	tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.25		2.50	0.03	0.52	0.01
Fugitive Dust - Grading/Excavation			0.25		2.50	0.15	0.52	0.03
Fugitive Dust - Drainage/Utilities/Subgrade			0.25		2.50	0.10	0.52	0.02

Off-Road Equipment Emissions																
Grubbing/Land Clearing		Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Override of Default Number of Vehicles	Program-estimate					pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
				Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2.00		1		Model Default Tier	Crawler Tractors	1.36	5.50	18.17	0.69	0.64	0.02	1,576.92	0.48	0.01	1,593.02	
				Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2.00		1		Model Default Tier	Excavators	0.73	6.88	8.08	0.40	0.37	0.01	1,089.21	0.33	0.01	1,100.33	
				Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4.00		5		Model Default Tier	Signal Boards	0.23	1.20	1.44	0.06	0.06	0.00	197.25	0.02	0.00	198.26	
				Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
				Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>User-Defined Off-road Equipment</b>						If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab										
Number of Vehicles		Equipment Tier		Type		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Grubbing/Land Clearing						pounds per day	2.31	13.58	27.69	1.15	1.06	0.03	2,863.38	0.84	0.02	2,891.60
Grubbing/Land Clearing						tons per phase	0.03	0.18	0.37	0.02	0.01	0.00	37.80	0.01	0.00	38.17

Grading/Excavation		Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
Override of Default Number of Vehicles	Program-estimate														
				Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0			Model Default Tier	Cranes	1.30	5.51	15.39	0.69	0.63	0.01	1,154.48	0.35	0.01	1,166.26
2.00	1			Model Default Tier	Crawler Tractors	1.36	5.50	18.17	0.69	0.64	0.02	1,576.92	0.48	0.01	1,593.02
				Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	3			Model Default Tier	Excavators	1.46	13.77	16.17	0.80	0.73	0.02	2,178.41	0.67	0.02	2,200.66
				Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2		Model Default Tier	Rollers	0.63	4.03	5.88	0.43	0.39	0.01	543.03	0.17	0.00	548.57
				Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	1			Model Default Tier	Rubber Tired Loaders	0.95	3.60	12.08	0.41	0.38	0.01	1,259.58	0.39	0.01	1,272.46
0.00	2			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	5			Model Default Tier	Signal Boards	0.23	1.20	1.44	0.06	0.06	0.00	197.25	0.02	0.00	198.26
				Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	2			Model Default Tier	Tractors/Loaders/Backhoes	1.28	9.67	12.30	0.92	0.85	0.01	1,286.19	0.39	0.01	1,299.30
				Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>User-Defined Off-road Equipment</b>		<b>If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab</b>				ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles		Equipment Tier		Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Grading/Excavation		pounds per day	7.19	43.29	81.41	3.99	3.68	0.08	8,195.86	2.47	0.07	8,278.53	
		Grading/Excavation		tons per phase	0.43	2.57	4.84	0.24	0.22	0.00	486.83	0.15	0.00	491.74	

Drainage/Utilities/Subgrade		Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	Program-estimate				pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	1			Model Default Tier	0.89	4.98	5.83	0.46	0.46	0.01	750.53	0.08	0.01	754.19
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	1			Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1			Model Default Tier	1.14	7.55	8.93	0.60	0.60	0.01	1,246.07	0.10	0.01	1,251.38
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	1			Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	1			Model Default Tier	0.08	0.42	0.50	0.02	0.02	0.00	68.96	0.01	0.00	69.31
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	1			Model Default Tier	1.20	7.66	9.06	0.63	0.63	0.01	1,246.07	0.11	0.01	1,251.55
0.00	1			Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2			Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	5			Model Default Tier	0.23	1.20	1.44	0.06	0.06	0.00	197.25	0.02	0.00	198.26
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	2			Model Default Tier	1.28	9.67	12.30	0.92	0.85	0.01	1,286.19	0.39	0.01	1,299.30
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>User-Defined Off-road Equipment</b>					ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Number of Vehicles	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab		Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage/Utilities/Sub-Grade			pounds per day	4.81	31.49	38.06	2.69	2.62	0.05	4,795.07	0.71	0.04	4,823.99
	Drainage/Utilities/Sub-Grade			tons per phase	0.19	1.25	1.51	0.11	0.10	0.00	189.88	0.03	0.00	191.03

Paving	Default	Mitigation Option		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
	Number of Vehicles	Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default											Type
Override of Default Number of Vehicles	Program-estimate		Equipment Tier	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2.00	1		Model Default Tier	Pavers	0.72	5.72	8.07	0.40	0.37	0.01	930.70	0.29	0.01	940.22
2.00	1		Model Default Tier	Paving Equipment	0.56	5.11	6.42	0.32	0.29	0.01	826.35	0.25	0.01	834.81
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	3		Model Default Tier	Rollers	0.62	4.03	5.83	0.42	0.39	0.01	542.60	0.17	0.00	548.14
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	5		Model Default Tier	Signal Boards	0.23	1.20	1.44	0.06	0.06	0.00	197.25	0.02	0.00	198.26
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.64	4.83	6.11	0.46	0.42	0.01	642.54	0.20	0.01	649.09
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>User-Defined Off-road Equipment</b>				<i>If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab</i>										
	Number of Vehicles		Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Paving		pounds per day	2.77	20.88	27.87	1.65	1.53	0.03	3,139.45	0.92	0.03	3,170.51
		Paving		tons per phase	0.05	0.41	0.55	0.03	0.03	0.00	62.16	0.02	0.00	62.78
<b>Total Emissions all Phases (tons per construction period) =&gt;</b>					0.70	4.41	7.26	0.39	0.37	0.01	776.68	0.20	0.01	783.72

Equipment default values for horsepower and hours/day can be overridden in cells D391 through D424 and F391 through F424.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		85		8
Excavators		163		8
Forklifts		89		8
Generator Sets		84		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		46		8

END OF DATA ENTRY SHEET