APPENDIX E
Friant-Kern Canal Middle Reach Capacity Correction Project

Air Quality and Greenhouse Gases and Emissions Results



BUREAU OF RECLAMATION



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Air Quality and Greenhouse Gases

This appendix provides background information and the results of emissions modeling for air quality and greenhouse gases for the Friant-Kern Canal Middle Reach Capacity Correction Project (Project) Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/R)**.** Acronyms and abbreviations used in this appendix are listed in Appendix A of the Draft EIS/R.

Air Pollutants of Concern

The National Ambient Air Quality Standards and the California Ambient Air Quality Standards are established for six criteria pollutants: ozone, carbon monoxide (CO), lead, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter (PM). The following section discusses these criteria pollutants, as well as other air pollutants of concern, toxic air contaminants (TACs) and diesel particulate matter (DPM).

Ozone

Ozone is a respiratory irritant that can cause severe ear, nose, and throat irritation and increase susceptibility to respiratory infections. It is also an oxidant that can cause extensive damage to plants through leaf discoloration and cell damage. It can cause substantial damage to other materials as well, such as synthetic rubber and textiles.

Ozone is not emitted directly into the air but is formed by a photochemical reaction in the atmosphere. Ozone precursors, including reactive organic gases (ROGs) and nitrogen oxides (NO_X), react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. ROGs and NO_X are mainly emitted by mobile sources and stationary combustion equipment.

Volatile and Reactive Organic Compounds

Hydrocarbons are organic gases composed of hydrogen and carbon atoms. There are several subsets of organic gases, including ROGs and volatile organic compounds (VOCs). ROGs are defined by state rules and regulations, and VOCs are defined by federal rules and regulations. For the purposes of this assessment, hydrocarbons are classified and referred to as ROGs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels or as a product of chemical processes. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants. Other common sources are petroleum fuels, solvents, dry-cleaning solutions, and paint, which are emitted through evaporation.

High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen though displacement. Carcinogenic forms of hydrocarbons are considered TACs. There are no separate health standards for ROGs, although some are also toxic; for example, benzene is both an ROG and a carcinogen.

Nitrogen Oxides

NO_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone and that react in the atmosphere to form acid rain. NO_2, often used interchangeably with NO_X, is a brownish, highly reactive gas that is present in all urban environments. The major human sources of NO_2 are combustion devices such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with ozone, the NO_2 concentration in a particular geographical area may not be representative of local NO_X emission sources.

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects primarily depends on the concentration inhaled rather than the duration of exposure. An individual who is exposed to NO_2 may experience a variety of acute symptoms, such as coughing, difficulty breathing, vomiting, headache, and eye irritation, during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe symptomatic NO_2 intoxication after acute exposure has been linked to prolonged respiratory impairment, with symptoms such as emphysema, bronchitis, and aggravation of existing heart disease.

Carbon Monoxide

CO, a colorless and odorless gas, interferes with the transfer of oxygen to the brain. It can cause dizziness and fatigue and can impair central nervous system functions. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. Automobile exhaust is responsible for most of the CO in urban areas, but other sources include power plants, refineries, industrial boilers, ships, aircraft, and trains. CO is a nonreactive air pollutant that dissipates relatively quickly so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. These locally concentrated peaks in CO are referred to as CO "hotspots." Because motor vehicles are the dominant source of CO emissions, CO hotspots are normally located near roads and freeways with high traffic volume.

Particulate Matter

PM pollution consists of very small liquid and solid particles floating in the air. PM can include smoke, soot, dust, salts, acids, and metals. PM also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM less than 10 microns in diameter, about 1/7th the thickness of a human hair, is referred to as PM_{10}. Particulate matter less than 2.5 microns in diameter, roughly 1/28th the diameter of a human hair, is referred to as $PM_{2.5}$. Major sources of PM_{10} include motor vehicles; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical

reactions. $PM_{2.5}$ results from fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, PM_{10} and $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X, and VOCs.

PM_{10} and $PM_{2.5}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{10} and $PM_{2.5}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, SO_4, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body; they can also transport absorbed gases such as chlorides or ammonium into the lungs and cause injury. Whereas particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or smaller are so tiny that they can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle and contribute to haze, which causes reduced regional visibility.

Other Criteria Pollutants

Toxic Air Contaminants

Although National Ambient Air Quality Standards and California Ambient Air Quality Standards exist for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or other acute (short-term) or chronic (long-term) health problems. For TACs that are known or suspected carcinogens, the California Air Resources Board (CARB) has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks that they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health effects, a similar factor, called a Hazard Index, is used to evaluate risk. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment. Examples of TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources.

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, and their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality (CARB 2013) presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. These TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, paradichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and DPM.

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A ten-year research program (CARB 1998) demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a long-term health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have

other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those already suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. However, Unlike the other TACs no ambient monitoring data are available for DPM because no routine measurement method currently exists. The CARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of DPM.

Sulfur Oxides

Sulfur oxides are any of several compounds of sulfur and oxygen, of which the most relevant to air quality is SO_2. SO_2 is a respiratory irritant that causes the bronchioles in the respiratory tract to constrict with inhalation at five parts per million or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO_2 concentrations may result in edema of the lungs or glottis and respiratory paralysis. SO_2 is produced by coal and oil combustion and such stationary sources as steel mills, refineries, and pulp and paper mills.

Lead

Lead is a natural metal constituent of air, water, and the biosphere; it is neither created nor destroyed in the environment, so it persists forever. Lead was used several decades ago to increase the octane rating in automotive fuel; therefore, gasoline-powered automobile engines were a major source of airborne lead. Since the use of leaded fuel has been phased out, the ambient concentrations of lead have dropped dramatically. Short-term exposure to high levels of lead can cause vomiting, diarrhea, convulsions, coma, or even death. However, even small amounts of lead can be harmful, especially to infants, young children, and pregnant women. Lead exposure is most serious for young children because they absorb lead more easily than adults and are more susceptible to its harmful effects. Even low-level exposure may harm the intellectual development, behavior, size, and hearing of infants. During pregnancy, especially in the last trimester, lead can affect the fetus. Female workers exposed to high levels of lead have more miscarriages and stillbirths.

Symptoms of long-term exposure to lower lead levels may be less noticeable but are still serious. Anemia is common, and damage to the nervous system may cause impaired mental function. Other symptoms are appetite loss, abdominal pain, constipation, fatigue, sleeplessness, irritability, and headache. Continued excessive exposure, as in an industrial setting, can affect the kidneys.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC (CARB 1998). On a statewide basis, the average potential cancer risk associated with DPM is more than 500 potential cases per million people. The California Office of Environmental Health Hazard Assessment estimated that the potential cancer risk from a 70-year exposure to DPM at a concentration of 1 microgram per cubic meter ranges from 130 to 2,400 excess cancer cases per million people. A scientific review panel concluded that an appropriate point estimate of unit risk for a 70-year exposure to DPM is 300 excess cancer cases per million people (CARB 2000).

The DPMs of greatest health concern are those in the categories of fine (PM_{10}) and ultra-fine ($PM_{2.5}$) particles. These fine and ultra-fine particles may be composed of elemental carbon with adsorbed compounds, such as organic compounds, SO_4, nitrate, metals, and other trace elements. The fine and ultra-fine particles are respirable, which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lungs.

Modeling Assumptions

The Project is located in the of the San Joaquin Valley Air Basin (SJVAB) governed by the San Joaquin Valley Air Pollution Control District (SJVAPCD). The following assumptions were used as inputs to a spreadsheet method to quantify emissions for the Project Alternatives; this method is consistent with the California Emissions Estimator Model (CalEEMod) calculation methods.

Construction Assumptions

Construction Schedule and Footprint

Table E-1. Estimated Construction Activity Schedule – CER Alternative

Activity	Duration	Impact Area (acres)
Segment 4 canal lining	7 months/147 days (November 1, 2022 – May 31, 2023)	10
Segment 1 canal lining	9 months/189 days (September 1, 2023 – May 31, 2024)	18
Excavation – new canal, turnouts, staging areas	16 months/336 days (May 1, 2021 – August 31, 2022)	1,400
New canal lining	9 months/168 days (April 1, 2022 – November 30, 2022)	50
Siphons	19 months/399 days (May 1, 2021 – November 30, 2022)	20
Check structures	14 months/294 days (January 1, 2021 – July 31, 2022)	2.5
Utility relocation	4 months/84 days (January 1, 2021 – April 30, 2021	10
Well abandonment	2 months/42 days (January 1, 2021 – February 28, 2021	11.5
Concrete batch plant	41 months/861 days	-

Activity	Duration	Impact Area (acres)
	(January 1, 2021 – May 31, 2024)	
Total	**41 months/861 days/3.5 years**	**1,522**

Table E-2. Estimated Construction Activity Schedule – CE Alternative

Activity	Duration	Impact Area (acres)
Segment 4 canal lining	7 months/147 days (May 1, 2029 – November 30, 2029)	10
Segment 1 canal lining	9 months/189 days (December 1, 2029 – August 31, 2030)	18
Canal widening/lining	24 months/504 days (December 1, 2021 – February 28, 2029)	860
Excavation – borrow, turnouts, staging areas, etc.	32 months/672 days (November 1, 2021 - February 28, 2029)	800
Bridges/siphons	45 months/945 days (September 1, 2021 – April 30, 2030)	15
Check structures	14 months/294 days (January 1, 2021 – July 31, 2022)	2.5
Utility relocation	8 months/168 days (December 1, 2021 – December 1, 2028)	10
Well abandonment	1 month/21 days (January 1, 2021 – January 30, 2021)	6
Concrete batch plant	60 months/1,260 days (January 1, 2021 – August 31, 2030)	-
Total	**80 months/1,680 days/10 years**	**1,721.5**

Construction Off-Road Equipment

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from both onsite and offsite activities. Onsite emissions consist principally of exhaust emissions from heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly particulate matter or PM_{10}) from disturbed soil.

Anticipated construction equipment that would be used for the Project Alternatives are listed in Tables E-3 and E-4, respectively.

Table E-3. Construction Equipment Assumptions – CER Alternative

Construction Stage	Equipment	Number of Units	Hours Per Day
Segment 4 canal lining	Pickup trucks/commuter vehicles	10	2
	Ready-mix concrete trucks[1]	5	8
	Compactor	1	4
	Water truck	1	4
	Small excavator	1	4
Segment 1 canal lining	Pickup trucks/commuter vehicles	10	2
	Ready-mix concrete trucks	5	8
	Compactor	1	4
	Water truck	1	4
	Small excavator	1	4
Excavation –- new canal, turnouts, staging areas	Dozer	2	8
	Scraper	10	8
	Excavator	1	8
	Dump	10	8
	Vibratory compactor	2	8
	Water truck	2	8
	Water pull (giant water truck with 8,000 gallon tank)	2	8
	Flatbed truck	2	4
	Pickup trucks/commuter vehicles	40	2
	Motor grader	2	4
	Gradall scraper	1	4
New canal lining	Canal trimmer[2]	1	8
	Paving train[3]	1	8
	Concrete curing applicator[4]	1	8
	Large crane	1	2
	Small boom truck	1	4
	Water truck	2	4
	Motor grader	2	4
	Belly-dump trucks with pup trailer	10	4
	Gradall scraper[5]	1	4
	Pickup trucks/commuter vehicles	25	2
Siphons	Large excavator backhoe	3	8
	Dump truck	3	8
	Frontend loader	6	4
	Vibratory compactor[6]	3	8

Construction Stage	Equipment	Number of Units	Hours Per Day
	Motor grader	3	4
	Small bulldozer[7]	3	4
	Asphalt paver	1	8
	25kVA portable generator	12	24
	Dewatering pump system	3	24
	Pickup trucks/commuter vehicles	36	4
	Ready-mix concrete trucks	12	8
	Concrete pump	3	8
	Concrete curing applicator	3	8
	Large crane	3	2
Check structures	Large excavator backhoe	1	8
	Dump truck	1	8
	Frontend loader	2	4
	Vibratory compactor	1	8
	Moto grader	1	4
	Small bulldozer	1	4
	25 kVA portable generator	4	24
	Dewatering pump system	1	24
	Pickup trucks/commuter vehicles	12	4
	Ready-mix concrete trucks	4	8
	Concrete pump	1	8
	Concrete curing applicator	1	8
	Large crane	1	2
Utility relocation	Pickup trucks/commuter vehicles	4	4
	Boom truck[8]	1	8
	Small crane	1	8
	Flatbed truck	1	2
Well abandonment	Pickup trucks/commuter vehicles	2	8
	Ready-mix concrete trucks	1	8
	Small excavator	1	8
Concrete batch plant	Concrete batch plant	1	8
	Haulers	6	8
	Loaders	2	8
	Mixers	2	8
	Pickup trucks/commuter vehicles	6	8

1

Table E-4. Construction Equipment Assumptions – CE Alternative

Construction Stage	Equipment	Number of Units	Hours Per Day
Segment 4 canal lining	Pickup trucks/commuter vehicles	10	2
	Ready-mix concrete trucks	5	8
	Compactor	1	4
	Water truck	1	4
	Small excavator	1	4
Segment 1 canal Lining	Pickup trucks/commuter vehicles	10	2
	Ready-mix concrete trucks	5	8
	Compactor	1	4
	Water truck	1	4
	Small excavator	1	4
Canal widening/lining	Concrete curing applicator	1	8
	Concrete pump	1	8
	Large crane	1	2
	Small boom truck	1	4
	Water truck	2	4
	Motor grader	2	4
	Belly-dump trucks with pup trailer	5	4
	Gradall scraper	1	4
	Pickup trucks/commuter vehicles	20	2
Excavation – borrow, turnouts, staging areas, etc.	Dozer	2	8
	Scraper	10	8
	Excavator	1	8
	Dump	10	8
	Vibratory compactor	1	8
	Water truck	1	8
	Water pull (giant water truck with 8,000 gallon tank)	1	8
	Flatbed truck	1	4
	Pickup trucks/commuter vehicles	20	2
	Motor grader	1	4
	Gradall scraper	1	4
Bridges/siphons	Large excavator backhoe	1	8
	Dump truck	3	8
	Frontend loader	2	4
	Vibratory compactor	1	8
	Motor grader	1	4

Construction Stage	Equipment	Number of Units	Hours Per Day
	Small bulldozer	1	4
	25 kVA portable generator	4	24
	Dewatering pump system	1	24
	Pickup trucks/commuter vehicles	20	2
	Ready-mix concrete trucks	12	8
	Concrete pump	1	8
	Concrete curing applicator	1	8
	Large crane	1	2
Check structures	Large excavator backhoe	1	8
	Dump truck	1	8
	Frontend loader	2	4
	Vibratory compactor	1	8
	Motor grader	1	4
	Small bulldozer	1	4
	25 kVA portable generator	4	24
	Dewatering pump system	1	24
	Pickup trucks/commuter vehicles	12	4
	Ready-mix concrete trucks	4	8
	Concrete pump	1	8
	Concrete curing applicator	1	8
	Large crane	1	2
Utility relocation	Pickup trucks/commuter vehicles	4	4
	Boom truck	1	8
	Small crane	1	8
	Flatbed truck	1	2
Well abandonment	Pickup trucks/commuter vehicles	2	8
	Ready-mix concrete trucks	1	8
	Small excavator	1	6
Concrete batch plant	Concrete batch plant	1	8
	Haulers	3	8
	Loaders	2	8
	Mixers	1	8
	Pickup trucks/commuter vehicles	6	8

Notes:
[1] Cement and mortar mixer used in place of the ready-mix concrete truck for a model equivalent.
[2] Grader used in place of the canal trimmer for a model equivalent.
[3] Paver used in place of a paving train for a model equivalent.
[4] Air compressor used in place of a concrete curing applicator for a model equivalent.
[5] Scraper used in place of a gradall scraper for a model equivalent.

[6] Plate Compactor used in place of a vibratory compactor for a model equivalent.
[7] Rubber tired dozer used in place of a small bulldozer for a model equivalent.
[8] Crane used in place of a boom truck for a model equivalent.

Construction Personnel Assumptions

Construction of both alternatives would require up to nine construction teams, with an average workforce of between 15 and 30 people per team working simultaneously. On any given day, up to 150 workers could be working onsite. The CER Alternative would last approximately 37 months between 2021 and 2024. The CE Alternative would last a total of 40 months over a 10 year period between 2021 and 2030.

Soil Excavation, Haul Trip Assumptions

Haul trips were assumed based on the following for each alternative:

Alternative	Haul Distance	Quantity (cubic yard)	Distribution	Weighted Trip Length (miles)
CER Alternative	Canal Excavation to Embankment (handled by offroad equipment)	2,000,000	0%	2.92
	1.5 mile haul from borrow site	380,000	15%	
	2.5 mile haul from borrow site	1,600,000	63%	
	5 mile haul from borrow site	495,000	20%	
	6 mile haul from borrow site	60,000	2%	
CE Alternative	1.5 mile haul from borrow site	500,000	8%	4.71
	2.5 mile haul from borrow site	2,000,000	33%	
	5 mile haul from borrow site	2,500,000	42%	
	10 mile haul from borrow site	1,000,000	17%	

Alternative	Total Excavation Quantity (CY)[1]	Truck Capacity (CY)[2]	Total Haul Trucks	Total Daily Haul Trucks	Total Daily Haul Truck Trips (In/Out)	Trip Length (miles)[3]
CER Alternative	2,535,000	20	126,750	377	754	2.92
CE Alternative	6,000,000	20	300,000	446	893	4.71

Modeling Results

Criteria Air Pollutant Emissions

The results of the modeling of unmitigated emissions by alternative are shown in Tables E-5 and E-7. The mitigated emissions results are shown in Table E-6 and E-8.

Table E-5. Estimated Unmitigated Emissions – CER Alternative

Year	Emissions (tons per year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2021	1.36	13.36	36.50	0.08	7.19	2.68
2022	1.68	17.10	44.73	0.10	7.63	2.88
2023	0.23	3.33	2.97	0.01	1.79	1.50
2024	0.10	1.54	1.31	0.01	0.77	0.63
Significance Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Exceed Threshold – significant impact?	**No**	**Yes**	**No**	**No**	**No**	**No**

Table E-6. Mitigated Emissions – CER Alternative

Year	Emissions (tons per year)					
	NO_X	Rule 9510 and VERA Reductions	Remaining NO_X	Threshold	Exceed Threshold?	Significant Impact?
2021	13.36	-3.46	9.99	10	No	No
2022	17.10	-7.11	9.99	10	No	No
2023	3.33	-0.67	2.66	10	No	No
2024	1.54	-0.31	1.23	10	No	No

Table E-7. Unmitigated Estimated Emissions – CE Alternative

Year	Emissions (tons per year)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2021	0.79	9.63	14.68	0.04	3.22	1.18
2022	1.07	14.37	21.77	0.05	5.16	1.45
2023	0.82	11.53	18.29	0.04	4.32	0.83
2024	0.81	11.47	18.20	0.04	4.32	0.83
2025	0.80	11.38	18.11	0.04	4.32	0.83
2026	0.79	11.31	18.03	0.04	4.32	0.83
2027	0.78	11.26	17.97	0.04	4.32	0.83
2028	0.78	11.21	17.92	0.04	4.32	0.83
2029	0.66	10.99	16.83	0.04	3.28	1.10
2030	0.19	3.86	5.30	0.02	0.93	0.60
Significance Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Exceed Threshold – significant impact?	**No**	**Yes**	**No**	**No**	**No**	**No**

Table E-8. Mitigated Estimated Emissions – CE Alternative

Year	Emissions (tons per year)					
	NO_X	**Rule 9510 and VERA Reductions**	**Remaining NO_X**	**Threshold**	**Exceed Threshold?**	**Significant Impact?**
2021	9.63	-1.93	7.70	10	No	No
2022	14.37	-4.38	9.99	10	No	No
2023	11.53	-1.54	9.99	10	No	No
2024	11.47	-1.48	9.99	10	No	No
2025	11.38	-1.39	9.99	10	No	No
2026	11.31	-1.32	9.99	10	No	No
2027	11.26	-1.27	9.99	10	No	No
2028	11.21	-1.22	9.99	10	No	No
2029	10.99	-1.00	9.99	10	No	No
2030	3.86	-0.772	3.09	10	No	No

Table E-9. Daily Emissions Estimate for Ambient Air Quality Standard Screening

Alternative	Maximum Daily Emissions (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
CER	54.76	281.96	59.55	49.53
CE	34.62	233.38	44.26	36.14
SJVAPCD Screening Threshold	100	100	100	100
CER Exceeds Screening Threshold?	No	Yes	No	No
CE Exceeds Screening Threshold?	No	Yes	No	No

Table E-10. CER Alternative - CO Ambient Air Quality Standard Analysis

Pollutant	Averaging Time, units	Existing Background	Project Increase	Total (Background + Project)	Standard Threshold	Total Impacts Exceed Threshold?
Carbon Monoxide	State 1 hour, ppm	2.34	0.55	2.89	20.0	No
	Federal 1 hour, ppm	2.34	0.46	2.80	35.0	No
	State 8 hour, ppm	1.75	0.09	1.84	9.0	No
	Federal 8 hour, ppm	1.75	0.08	1.83	9.0	No

Background concentrations based on Fresno-Garland Station

Table E-11. CE Alternative - CO Ambient Air Quality Standard Analysis

Pollutant	Averaging Time, units	Existing Background	Project Increase	Total (Background + Project)	Standard Threshold	Total Impacts Exceed Threshold?
Carbon Monoxide	State 1 hour, ppm	2.34	0.37	2.71	20.0	No
	Federal 1 hour, ppm	2.34	0.36	2.70	35.0	No
	State 8 hour, ppm	1.75	0.09	1.84	9.0	No
	Federal 8 hour, ppm	1.75	0.05	1.81	9.0	No

Background concentrations based on Fresno-Garland Station

Greenhouse Gas Emissions

Greenhouse gas emissions for each alternative are shown in Table E-12 and E-13.

Table E-12. Greenhouse Gas Emissions – CER Alternative

	Metric Tons per year			
Year	**CO2**	**CH4**	**N2O**	**CO_2e**
2021	6,890.92	0.80	0.35	7,007.05
2022	8,618.83	0.94	0.45	8,765.26
2023	1,168.74	0.06	0.12	1,202.64
2024	539.05	0.03	0.06	554.77
Total	**17,217.54**	**1.83**	**0.98**	**17,529.72**
50 -year Amortization				**350.59**

Table E-13. Greenhouse Gas Emissions – CE Alternative

	Metric Tons per year			
Year	**CO2**	**CH4**	**N2O**	**CO_2e**
2021	3,324.75	0.25	0.30	3,412.66
2022	4,767.39	0.38	0.47	4,901.77
2023	3,788.25	0.31	0.39	3,900.28
2024	3,736.67	0.31	0.38	3,846.65
2025	3,679.88	0.31	0.37	3,787.60
2026	3,623.01	0.31	0.37	3,728.49
2027	3,566.09	0.30	0.36	3,669.32
2028	3,510.14	0.30	0.35	3,611.15
2029	3,824.03	0.26	0.35	3,923.13
2030	1,462.26	0.07	0.13	1,497.81
Total	35,282.49	2.79	3.46	36,278.86
50 -year Amortization				**725.58**

Attachment E1 Air Quality and Greenhouse Gas Emission Results

AIR QUALITY AND GREENHOUSE GAS EMISSIONS RESULTS

CANAL ENLARGEMENT (CE) ALTERNATIVE

Canal Enlargement (CE) Construction AQ Emissions Summary

	Tons per Year					
Year	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
2021	0.79	9.63	14.68	0.04	3.22	1.18
2022	1.07	14.37	21.77	0.05	5.16	1.45
2023	0.82	11.53	18.29	0.04	4.32	0.83
2024	0.81	11.47	18.20	0.04	4.32	0.83
2025	0.80	11.38	18.11	0.04	4.32	0.83
2026	0.79	11.31	18.03	0.04	4.32	0.83
2027	0.78	11.26	17.97	0.04	4.32	0.83
2028	0.78	11.21	17.92	0.04	4.32	0.83
2029	0.66	10.99	16.83	0.04	3.28	1.10
2030	0.19	3.86	5.30	0.02	0.93	0.60
SJVAPCD Thresholds	10	10	100	27	15	15
Exceeds Threshold?	No	Yes	No	No	No	No

2021	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.20	1.20	8.51	0.01	0.05	0.05
Truck Loading	0.00	0.00	0.00	0.00	0.01	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.17	0.09
Grading	0.00	0.00	0.00	0.00	0.12	0.01
LD Support	0.04	0.06	0.76	0.00	0.15	0.04
HHDT Support	0.15	3.44	0.56	0.01	0.18	0.06
Offsite LD	0.06	0.07	0.74	0.00	0.22	0.06
Haul	0.33	4.86	4.11	0.01	1.67	0.20
Batch Plant	0.00	0.00	0.00	0.00	0.66	0.66
Total	**0.79**	**9.63**	**14.68**	**0.04**	**3.22**	**1.18**

2022	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.26	1.49	11.65	0.02	0.06	0.06
Truck Loading	0.00	0.00	0.00	0.00	0.02	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.27	0.15
Grading	0.00	0.00	0.00	0.00	0.22	0.02
LD Support	0.04	0.06	0.78	0.00	0.17	0.05
HHDT Support	0.11	3.96	0.56	0.01	0.21	0.07
Offsite LD	0.06	0.07	0.77	0.00	0.25	0.07
Haul	0.59	8.79	8.01	0.02	3.30	0.38
Batch Plant	0.00	0.00	0.00	0.00	0.66	0.66
Total	**1.07**	**14.37**	**21.77**	**0.05**	**5.16**	**1.45**

2023	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.20	1.10	9.33	0.01	0.04	0.04
Truck Loading	0.00	0.00	0.00	0.00	0.02	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.25	0.14
Grading	0.00	0.00	0.00	0.00	0.22	0.02
LD Support	0.02	0.02	0.32	0.00	0.07	0.02
HHDT Support	0.02	2.70	0.28	0.01	0.15	0.04
Offsite LD	0.03	0.03	0.34	0.00	0.12	0.03
Haul	0.55	7.68	8.02	0.02	3.28	0.37
Batch Plant	0.00	0.00	0.00	0.00	0.16	0.16
Total	**0.82**	**11.53**	**18.29**	**0.04**	**4.32**	**0.83**

2024	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.20	1.07	9.33	0.01	0.04	0.04
Truck Loading	0.00	0.00	0.00	0.00	0.02	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.25	0.14
Grading	0.00	0.00	0.00	0.00	0.22	0.02
LD Support	0.02	0.02	0.29	0.00	0.07	0.02
HHDT Support	0.02	2.72	0.29	0.01	0.15	0.04
Offsite LD	0.03	0.02	0.31	0.00	0.12	0.03
Haul	0.54	7.63	7.97	0.02	3.28	0.37
Batch Plant	0.00	0.00	0.00	0.00	0.16	0.16
Total	**0.81**	**11.47**	**18.20**	**0.04**	**4.32**	**0.83**

2025	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.19	1.03	9.33	0.01	0.04	0.04
Truck Loading	0.00	0.00	0.00	0.00	0.02	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.25	0.14
Grading	0.00	0.00	0.00	0.00	0.22	0.02
LD Support	0.02	0.02	0.27	0.00	0.07	0.02
HHDT Support	0.02	2.72	0.29	0.01	0.15	0.04
Offsite LD	0.02	0.02	0.29	0.00	0.12	0.03
Haul	0.54	7.58	7.93	0.02	3.28	0.37
Batch Plant	0.00	0.00	0.00	0.00	0.16	0.16
Total	**0.80**	**11.38**	**18.11**	**0.04**	**4.32**	**0.83**

2026	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.19	1.03	9.33	0.01	0.04	0.04
Truck Loading	0.00	0.00	0.00	0.00	0.02	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.25	0.14
Grading	0.00	0.00	0.00	0.00	0.22	0.02
LD Support	0.02	0.02	0.25	0.00	0.07	0.02
HHDT Support	0.02	2.72	0.28	0.01	0.15	0.04
Offsite LD	0.02	0.02	0.27	0.00	0.12	0.03
Haul	0.54	7.53	7.89	0.02	3.28	0.37
Batch Plant	0.00	0.00	0.00	0.00	0.16	0.16
Total	**0.79**	**11.31**	**18.03**	**0.04**	**4.32**	**0.83**

2027	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.19	1.03	9.33	0.01	0.04	0.04
Truck Loading	0.00	0.00	0.00	0.00	0.02	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.25	0.14
Grading	0.00	0.00	0.00	0.00	0.22	0.02
LD Support	0.01	0.01	0.23	0.00	0.07	0.02
HHDT Support	0.02	2.71	0.28	0.01	0.15	0.04
Offsite LD	0.02	0.02	0.26	0.00	0.12	0.03
Haul	0.54	7.49	7.87	0.02	3.28	0.37
Batch Plant	0.00	0.00	0.00	0.00	0.16	0.16
Total	**0.78**	**11.26**	**17.97**	**0.04**	**4.32**	**0.83**

2028	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.19	1.03	9.33	0.01	0.04	0.04
Truck Loading	0.00	0.00	0.00	0.00	0.02	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.25	0.14
Grading	0.00	0.00	0.00	0.00	0.22	0.02
LD Support	0.01	0.01	0.22	0.00	0.07	0.02
HHDT Support	0.02	2.69	0.28	0.01	0.15	0.04
Offsite LD	0.02	0.02	0.24	0.00	0.12	0.03
Haul	0.53	7.45	7.84	0.02	3.28	0.37
Batch Plant	0.00	0.00	0.00	0.00	0.16	0.16
Total	**0.78**	**11.21**	**17.92**	**0.04**	**4.32**	**0.83**

2029	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.23	1.27	10.45	0.02	0.05	0.05
Truck Loading	0.00	0.00	0.00	0.00	0.01	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.21	0.12
Grading	0.00	0.00	0.00	0.00	0.13	0.01
LD Support	0.02	0.02	0.40	0.00	0.14	0.04
HHDT Support	0.03	4.88	0.51	0.01	0.27	0.08
Offsite LD	0.04	0.03	0.48	0.00	0.25	0.07
Haul	0.34	4.78	4.99	0.01	1.68	0.20
Batch Plant	0.00	0.00	0.00	0.00	0.55	0.55
Total	**0.66**	**10.99**	**16.83**	**0.04**	**3.28**	**1.10**

2030	Tons per Year					
Source	**ROG**	**NOX**	**CO**	**SOX**	**Total PM10**	**Total PM2.5**
Offroad	0.09	0.46	3.69	0.01	0.02	0.02
Truck Loading	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00	0.05	0.03
Grading	0.00	0.00	0.00	0.00	0.01	0.00
LD Support	0.01	0.01	0.23	0.00	0.08	0.02
HHDT Support	0.02	2.57	0.27	0.01	0.14	0.04
Offsite LD	0.02	0.02	0.30	0.00	0.16	0.04
Haul	0.06	0.80	0.81	0.00	0.03	0.01
Batch Plant	0.00	0.00	0.00	0.00	0.44	0.44
Total	**0.19**	**3.86**	**5.30**	**0.02**	**0.93**	**0.60**

Canal Enlargement (CE) Construction GHG Emissions Summary

	MT per year				
Year	**CO2**	**CH4**	**N2O**	**CO_2e**	
2021	3,324.75	0.25	0.30	3,412.66	
2022	4,767.39	0.38	0.47	4,901.77	
2023	3,788.25	0.31	0.39	3,900.28	
2024	3,736.67	0.31	0.38	3,846.65	
2025	3,679.88	0.31	0.37	3,787.60	
2026	3,623.01	0.31	0.37	3,728.49	
2027	3,566.09	0.30	0.36	3,669.32	
2028	3,510.14	0.30	0.35	3,611.15	
2029	3,824.03	0.26	0.35	3,923.13	
2030	1,462.26	0.07	0.13	1,497.81	**50-Year Amortization**
Total	**35,282.49**	**2.79**	**3.46**	**36,278.86**	725.58

Global Warming Potentials[1]		
CO2	**CH4**	**N2O**
1.00	28.00	265.00

2021

	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,078.85	0.22	0.00	1,085.04
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	187.48	0.01	0.00	188.81
HHDT Support	878.43	0.01	0.14	915.20
Offsite LD	179.37	0.01	0.01	180.92
Haul	1,000.61	0.01	0.16	1,042.69
Batch Plant	0.00	0.00	0.00	0.00
Total	**3,324.75**	**0.25**	**0.30**	**3,412.66**

2022

	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,451.04	0.33	0.00	1,460.41
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	206.35	0.01	0.00	207.72
HHDT Support	1,051.67	0.00	0.17	1,095.61
Offsite LD	200.07	0.01	0.01	201.68
Haul	1,858.25	0.02	0.29	1,936.36
Batch Plant	0.00	0.00	0.00	0.00
Total	**4,767.39**	**0.38**	**0.47**	**4,901.77**

2023	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,152.19	0.28	0.00	1,160.04
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	88.05	0.00	0.00	88.62
HHDT Support	749.86	0.00	0.12	781.12
Offsite LD	93.98	0.00	0.00	94.69
Haul	1,704.18	0.02	0.27	1,775.81
Batch Plant	0.00	0.00	0.00	0.00
Total	**3,788.25**	**0.31**	**0.39**	**3,900.28**

2024	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,151.75	0.28	0.00	1,159.57
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	85.44	0.00	0.00	85.97
HHDT Support	736.35	0.00	0.12	767.04
Offsite LD	91.21	0.00	0.00	91.86
Haul	1,671.92	0.02	0.26	1,742.21
Batch Plant	0.00	0.00	0.00	0.00
Total	**3,736.67**	**0.31**	**0.38**	**3,846.65**

2025	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,151.37	0.28	0.00	1,159.16
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	82.85	0.00	0.00	83.33
HHDT Support	720.61	0.00	0.11	750.64
Offsite LD	88.45	0.00	0.00	89.05
Haul	1,636.61	0.02	0.26	1,705.42
Batch Plant	0.00	0.00	0.00	0.00
Total	**3,679.88**	**0.31**	**0.37**	**3,787.60**

2026	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,151.37	0.28	0.00	1,159.16
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	80.51	0.00	0.00	80.95
HHDT Support	704.56	0.00	0.11	733.93
Offsite LD	86.00	0.00	0.00	86.56
Haul	1,600.57	0.02	0.25	1,667.88
Batch Plant	0.00	0.00	0.00	0.00
Total	**3,623.01**	**0.31**	**0.37**	**3,728.49**

2027	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,151.37	0.28	0.00	1,159.16
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	78.34	0.00	0.00	78.76
HHDT Support	687.70	0.00	0.11	716.37
Offsite LD	83.69	0.00	0.00	84.22
Haul	1,564.99	0.02	0.25	1,630.81
Batch Plant	0.00	0.00	0.00	0.00
Total	**3,566.09**	**0.30**	**0.36**	**3,669.32**

2028	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,151.37	0.28	0.00	1,159.16
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	76.39	0.00	0.00	76.78
HHDT Support	670.94	0.00	0.11	698.91
Offsite LD	81.62	0.00	0.00	82.12
Haul	1,529.83	0.02	0.24	1,594.18
Batch Plant	0.00	0.00	0.00	0.00
Total	**3,510.14**	**0.30**	**0.35**	**3,611.15**

2029	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	1,345.57	0.24	0.00	1,352.16
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	144.15	0.00	0.00	144.85
HHDT Support	1,192.91	0.00	0.19	1,242.64
Offsite LD	164.84	0.00	0.00	165.83
Haul	976.57	0.01	0.15	1,017.65
Batch Plant	0.00	0.00	0.00	0.00
Total	**3,824.03**	**0.26**	**0.35**	**3,923.13**

2030	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	488.73	0.06	0.00	490.54
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	85.58	0.00	0.00	85.97
HHDT Support	615.69	0.00	0.10	641.36
Offsite LD	104.13	0.00	0.00	104.74
Haul	168.13	0.00	0.03	175.20
Batch Plant	0.00	0.00	0.00	0.00
Total	**1,462.26**	**0.07**	**0.13**	**1,497.81**

1) GWP from IPCC AR5

Offroad Equipment Exhaust Emissions

	Annual Emissions (tons per year)												
Year	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
2021	0.20	1.20	8.51	0.01	0.00	0.05	0.05	0.00	0.05	0.05	1189.21	0.24	0.00
2022	0.26	1.49	11.65	0.02	0.00	0.06	0.06	0.00	0.06	0.06	1599.47	0.37	0.00
2023	0.20	1.10	9.33	0.01	0.00	0.04	0.04	0.00	0.04	0.04	1270.05	0.31	0.00
2024	0.20	1.07	9.33	0.01	0.00	0.04	0.04	0.00	0.04	0.04	1269.57	0.31	0.00
2025	0.19	1.03	9.33	0.01	0.00	0.04	0.04	0.00	0.04	0.04	1269.14	0.31	0.00
2026	0.19	1.03	9.33	0.01	0.00	0.04	0.04	0.00	0.04	0.04	1269.14	0.31	0.00
2027	0.19	1.03	9.33	0.01	0.00	0.04	0.04	0.00	0.04	0.04	1269.14	0.31	0.00
2028	0.19	1.03	9.33	0.01	0.00	0.04	0.04	0.00	0.04	0.04	1269.14	0.31	0.00
2029	0.23	1.27	10.45	0.02	0.00	0.05	0.05	0.00	0.05	0.05	1483.21	0.26	0.00
2030	0.09	0.46	3.69	0.01	0.00	0.02	0.02	0.00	0.02	0.02	538.72	0.07	0.00

Offroad Equipment Exhaust Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	CalEEMod EF Year
Segment 4 Canal Lining	Compactor	Plate Compactors	147	5/1/2029	11/30/2029	2029	2025
Segment 4 Canal Lining	Small excavator	Excavators	147	5/1/2029	11/30/2029	2029	2025
Segment 1 Canal Lining	Compactor	Plate Compactors	189	12/1/2029	12/31/2029	2029	2025
Segment 1 Canal Lining	Small excavator	Excavators	189	12/1/2029	12/31/2029	2029	2025
Segment 1 Canal Lining	Compactor	Plate Compactors	189	1/1/2030	8/31/2030	2030	2030
Segment 1 Canal Lining	Small excavator	Excavators	189	1/1/2030	8/31/2030	2030	2030
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	12/1/2021	12/31/2021	2021	2021
Canal Widening/Lining	Concrete pump	Pumps	504	12/1/2021	12/31/2021	2021	2021
Canal Widening/Lining	Large Crane	Cranes	504	12/1/2021	12/31/2021	2021	2021
Canal Widening/Lining	Motor Grader	Graders	336	12/1/2021	12/31/2021	2021	2021
Canal Widening/Lining	Gradall scraper	Scrapers	336	12/1/2021	12/31/2021	2021	2021
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	1/1/2022	12/31/2022	2022	2022
Canal Widening/Lining	Concrete pump	Pumps	504	1/1/2022	12/31/2022	2022	2022
Canal Widening/Lining	Large Crane	Cranes	504	1/1/2022	12/31/2022	2022	2022
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2022	12/31/2022	2022	2022
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2022	12/31/2022	2022	2022
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	1/1/2023	12/31/2023	2023	2023
Canal Widening/Lining	Concrete pump	Pumps	504	1/1/2023	12/31/2023	2023	2023
Canal Widening/Lining	Large Crane	Cranes	504	1/1/2023	12/31/2023	2023	2023
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2023	12/31/2023	2023	2023
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2023	12/31/2023	2023	2023
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	1/1/2024	12/31/2024	2024	2024
Canal Widening/Lining	Concrete pump	Pumps	504	1/1/2024	12/31/2024	2024	2024
Canal Widening/Lining	Large Crane	Cranes	504	1/1/2024	12/31/2024	2024	2024
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2024	12/31/2024	2024	2024
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2024	12/31/2024	2024	2024
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	1/1/2025	12/31/2025	2025	2025
Canal Widening/Lining	Concrete pump	Pumps	504	1/1/2025	12/31/2025	2025	2025
Canal Widening/Lining	Large Crane	Cranes	504	1/1/2025	12/31/2025	2025	2025
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2025	12/31/2025	2025	2025
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2025	12/31/2025	2025	2025
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	1/1/2026	12/31/2026	2026	2025
Canal Widening/Lining	Concrete pump	Pumps	504	1/1/2026	12/31/2026	2026	2025
Canal Widening/Lining	Large Crane	Cranes	504	1/1/2026	12/31/2026	2026	2025
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2026	12/31/2026	2026	2025
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2026	12/31/2026	2026	2025
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	1/1/2027	12/31/2027	2027	2025
Canal Widening/Lining	Concrete pump	Pumps	504	1/1/2027	12/31/2027	2027	2025
Canal Widening/Lining	Large Crane	Cranes	504	1/1/2027	12/31/2027	2027	2025
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2027	12/31/2027	2027	2025
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2027	12/31/2027	2027	2025
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	1/1/2028	12/31/2028	2028	2025
Canal Widening/Lining	Concrete pump	Pumps	504	1/1/2028	12/31/2028	2028	2025
Canal Widening/Lining	Large Crane	Cranes	504	1/1/2028	12/31/2028	2028	2025
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2028	12/31/2028	2028	2025
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2028	12/31/2028	2028	2025
Canal Widening/Lining	Concrete Curing Applicator	Air Compressors	504	1/1/2029	2/28/2029	2029	2025
Canal Widening/Lining	Concrete pump	Pumps	504	1/1/2029	2/28/2029	2029	2025
Canal Widening/Lining	Large Crane	Cranes	504	1/1/2029	2/28/2029	2029	2025
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2029	2/28/2029	2029	2025
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2029	2/28/2029	2029	2025
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	11/1/2021	12/31/2021	2021	2021
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	11/1/2021	12/31/2021	2021	2021
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	11/1/2021	12/31/2021	2021	2021
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	11/1/2021	12/31/2021	2021	2021
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	11/1/2021	12/31/2021	2021	2021
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	11/1/2021	12/31/2021	2021	2021
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2022	12/31/2022	2022	2022
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2022	12/31/2022	2022	2022
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	1/1/2022	12/31/2022	2022	2022
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	1/1/2022	12/31/2022	2022	2022
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2022	12/31/2022	2022	2022
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2022	12/31/2022	2022	2022
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2023	12/31/2023	2023	2023
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2023	12/31/2023	2023	2023
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	1/1/2023	12/31/2023	2023	2023
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	1/1/2023	12/31/2023	2023	2023
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2023	12/31/2023	2023	2023
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2023	12/31/2023	2023	2023
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2024	12/31/2024	2024	2024
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2024	12/31/2024	2024	2024
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	1/1/2024	12/31/2024	2024	2024
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	1/1/2024	12/31/2024	2024	2024
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2024	12/31/2024	2024	2024
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2024	12/31/2024	2024	2024
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2025	12/31/2025	2025	2025
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2025	12/31/2025	2025	2025
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	1/1/2025	12/31/2025	2025	2025
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	1/1/2025	12/31/2025	2025	2025
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2025	12/31/2025	2025	2025
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2025	12/31/2025	2025	2025
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2026	12/31/2026	2026	2025
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2026	12/31/2026	2026	2025
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	1/1/2026	12/31/2026	2026	2025
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	1/1/2026	12/31/2026	2026	2025
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2026	12/31/2026	2026	2025
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2026	12/31/2026	2026	2025

Offroad Equipment Exhaust Emissions	Days per Construction Year									
Phase	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Segment 4 Canal Lining	0	0	0	0	0	0	0	0	147	0
Segment 4 Canal Lining	0	0	0	0	0	0	0	0	147	0
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	21	0
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	21	0
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	0	168
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	0	168
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	63	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	63	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	63	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	42	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	42	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	63	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	63	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	63	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	42	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	42	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	63	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	63	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	63	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	42	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	42	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	63	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	63	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	63	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	42	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	42	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	63	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	63	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	63	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	42	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	42	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	63	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	63	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	63	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	42	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	42	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	63	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	63	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	63	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	42	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	42	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	42	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	42	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	42	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	21	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	21	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0

Offroad Equipment Exhaust Emissions

Phase	Quantity[1]	Hours per Day[1]	HP[2]	LF[2]
Segment 4 Canal Lining	1	4	8	0.43
Segment 4 Canal Lining	1	4	158	0.38
Segment 1 Canal Lining	1	4	8	0.43
Segment 1 Canal Lining	1	4	158	0.38
Segment 1 Canal Lining	1	4	8	0.43
Segment 1 Canal Lining	1	4	158	0.38
Canal Widening/Lining	1	8	78	0.48
Canal Widening/Lining	1	8	84	0.74
Canal Widening/Lining	1	2	231	0.29
Canal Widening/Lining	2	4	187	0.41
Canal Widening/Lining	1	4	367	0.48
Canal Widening/Lining	1	8	78	0.48
Canal Widening/Lining	1	8	84	0.74
Canal Widening/Lining	1	2	231	0.29
Canal Widening/Lining	2	4	187	0.41
Canal Widening/Lining	1	4	367	0.48
Canal Widening/Lining	1	8	78	0.48
Canal Widening/Lining	1	8	84	0.74
Canal Widening/Lining	1	2	231	0.29
Canal Widening/Lining	2	4	187	0.41
Canal Widening/Lining	1	4	367	0.48
Canal Widening/Lining	1	8	78	0.48
Canal Widening/Lining	1	8	84	0.74
Canal Widening/Lining	1	2	231	0.29
Canal Widening/Lining	2	4	187	0.41
Canal Widening/Lining	1	4	367	0.48
Canal Widening/Lining	1	8	78	0.48
Canal Widening/Lining	1	8	84	0.74
Canal Widening/Lining	1	2	231	0.29
Canal Widening/Lining	2	4	187	0.41
Canal Widening/Lining	1	4	367	0.48
Canal Widening/Lining	1	8	78	0.48
Canal Widening/Lining	1	8	84	0.74
Canal Widening/Lining	1	2	231	0.29
Canal Widening/Lining	2	4	187	0.41
Canal Widening/Lining	1	4	367	0.48
Canal Widening/Lining	1	8	78	0.48
Canal Widening/Lining	1	8	84	0.74
Canal Widening/Lining	1	2	231	0.29
Canal Widening/Lining	2	4	187	0.41
Canal Widening/Lining	1	4	367	0.48
Canal Widening/Lining	1	8	78	0.48
Canal Widening/Lining	1	8	84	0.74
Canal Widening/Lining	1	2	231	0.29
Canal Widening/Lining	2	4	187	0.41
Canal Widening/Lining	1	4	367	0.48
Excavation-Borrow, Turnouts, Staging	2	8	247	0.4
Excavation-Borrow, Turnouts, Staging	10	8	367	0.48
Excavation-Borrow, Turnouts, Staging	1	8	158	0.38
Excavation-Borrow, Turnouts, Staging	1	8	8	0.43
Excavation-Borrow, Turnouts, Staging	1	4	187	0.41
Excavation-Borrow, Turnouts, Staging	1	4	367	0.48
Excavation-Borrow, Turnouts, Staging	2	8	247	0.4
Excavation-Borrow, Turnouts, Staging	10	8	367	0.48
Excavation-Borrow, Turnouts, Staging	1	8	158	0.38
Excavation-Borrow, Turnouts, Staging	1	8	8	0.43
Excavation-Borrow, Turnouts, Staging	1	4	187	0.41
Excavation-Borrow, Turnouts, Staging	1	4	367	0.48
Excavation-Borrow, Turnouts, Staging	2	8	247	0.4
Excavation-Borrow, Turnouts, Staging	10	8	367	0.48
Excavation-Borrow, Turnouts, Staging	1	8	158	0.38
Excavation-Borrow, Turnouts, Staging	1	8	8	0.43
Excavation-Borrow, Turnouts, Staging	1	4	187	0.41
Excavation-Borrow, Turnouts, Staging	1	4	367	0.48
Excavation-Borrow, Turnouts, Staging	2	8	247	0.4
Excavation-Borrow, Turnouts, Staging	10	8	367	0.48
Excavation-Borrow, Turnouts, Staging	1	8	158	0.38
Excavation-Borrow, Turnouts, Staging	1	8	8	0.43
Excavation-Borrow, Turnouts, Staging	1	4	187	0.41
Excavation-Borrow, Turnouts, Staging	1	4	367	0.48
Excavation-Borrow, Turnouts, Staging	2	8	247	0.4
Excavation-Borrow, Turnouts, Staging	10	8	367	0.48
Excavation-Borrow, Turnouts, Staging	1	8	158	0.38
Excavation-Borrow, Turnouts, Staging	1	8	8	0.43
Excavation-Borrow, Turnouts, Staging	1	4	187	0.41
Excavation-Borrow, Turnouts, Staging	1	4	367	0.48

Offroad Equipment Exhaust Emissions	Emission Factor (g/bhp-hr)[2]												
Phase	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Segment 4 Canal Lining	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Segment 4 Canal Lining	0.16	1.15	3.08	0.01	0.00	0.06	0.06	0.00	0.05	0.05	472.50	0.15	0.00
Segment 1 Canal Lining	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Segment 1 Canal Lining	0.16	1.15	3.08	0.01	0.00	0.06	0.06	0.00	0.05	0.05	472.50	0.15	0.00
Segment 1 Canal Lining	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Segment 1 Canal Lining	0.21	0.53	3.36	0.01	0.00	0.02	0.02	0.00	0.02	0.02	568.30	0.02	0.00
Canal Widening/Lining	0.44	3.08	3.67	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.04	0.00
Canal Widening/Lining	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Canal Widening/Lining	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.54	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.46	0.15	0.00
Canal Widening/Lining	0.41	2.84	3.66	0.01	0.00	0.17	0.17	0.00	0.17	0.17	568.30	0.04	0.00
Canal Widening/Lining	0.32	2.71	3.40	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Canal Widening/Lining	0.32	3.54	1.60	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.98	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.24	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.23	0.15	0.00
Canal Widening/Lining	0.39	2.63	3.66	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Canal Widening/Lining	0.30	2.51	3.40	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.00
Canal Widening/Lining	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	472.97	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.93	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.18	0.15	0.00
Canal Widening/Lining	0.37	2.46	3.66	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.00
Canal Widening/Lining	0.28	2.35	3.39	0.01	0.00	0.11	0.11	0.00	0.11	0.11	568.30	0.03	0.00
Canal Widening/Lining	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.67	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.85	0.15	0.00
Canal Widening/Lining	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Canal Widening/Lining	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Canal Widening/Lining	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Canal Widening/Lining	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Canal Widening/Lining	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Canal Widening/Lining	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Canal Widening/Lining	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Canal Widening/Lining	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Canal Widening/Lining	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Canal Widening/Lining	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Canal Widening/Lining	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Canal Widening/Lining	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Canal Widening/Lining	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Canal Widening/Lining	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Canal Widening/Lining	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Canal Widening/Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.80	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.46	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.22	2.03	3.09	0.01	0.00	0.10	0.10	0.00	0.09	0.09	472.36	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.46	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.62	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.23	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.19	1.68	3.07	0.01	0.00	0.08	0.08	0.00	0.08	0.08	472.19	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.24	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.23	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.60	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.18	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.18	1.46	3.08	0.01	0.00	0.07	0.07	0.00	0.07	0.07	472.28	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.93	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.18	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.59	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.85	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.17	1.32	3.08	0.01	0.00	0.07	0.07	0.00	0.06	0.06	472.43	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.67	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.85	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.16	1.15	3.08	0.01	0.00	0.06	0.06	0.00	0.05	0.05	472.50	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.16	1.15	3.08	0.01	0.00	0.06	0.06	0.00	0.05	0.05	472.50	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00

Offroad Equipment Exhaust Emissions	Emissions (lb/day)												
Phase	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Segment 4 Canal Lining	0.02	0.13	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.24	0.00	0.00
Segment 4 Canal Lining	0.08	0.61	1.63	0.00	0.00	0.03	0.03	0.00	0.03	0.03	250.16	0.08	0.00
Segment 1 Canal Lining	0.02	0.13	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.24	0.00	0.00
Segment 1 Canal Lining	0.08	0.61	1.63	0.00	0.00	0.03	0.03	0.00	0.03	0.03	250.16	0.08	0.00
Segment 1 Canal Lining	0.02	0.13	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.24	0.00	0.00
Segment 1 Canal Lining	0.11	0.28	1.78	0.00	0.00	0.01	0.01	0.00	0.01	0.01	300.89	0.01	0.00
Canal Widening/Lining	0.29	2.04	2.42	0.00	0.00	0.13	0.13	0.00	0.13	0.13	375.26	0.03	0.00
Canal Widening/Lining	0.38	3.21	3.74	0.01	0.00	0.18	0.18	0.00	0.18	0.18	623.03	0.03	0.00
Canal Widening/Lining	0.10	1.21	0.50	0.00	0.00	0.05	0.05	0.00	0.05	0.05	139.68	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	641.67	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	733.94	0.24	0.00
Canal Widening/Lining	0.27	1.88	2.42	0.00	0.00	0.11	0.11	0.00	0.11	0.11	375.26	0.02	0.00
Canal Widening/Lining	0.35	2.97	3.73	0.01	0.00	0.16	0.16	0.00	0.16	0.16	623.02	0.03	0.00
Canal Widening/Lining	0.09	1.05	0.47	0.00	0.00	0.04	0.04	0.00	0.04	0.04	139.71	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	641.27	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	735.13	0.24	0.00
Canal Widening/Lining	0.26	1.74	2.41	0.00	0.00	0.09	0.09	0.00	0.09	0.09	375.26	0.02	0.00
Canal Widening/Lining	0.33	2.75	3.73	0.01	0.00	0.13	0.13	0.00	0.13	0.13	623.02	0.03	0.00
Canal Widening/Lining	0.09	0.95	0.46	0.00	0.00	0.04	0.04	0.00	0.04	0.04	139.70	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	640.84	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	735.05	0.24	0.00
Canal Widening/Lining	0.24	1.63	2.41	0.00	0.00	0.08	0.08	0.00	0.08	0.08	375.26	0.02	0.00
Canal Widening/Lining	0.31	2.58	3.72	0.01	0.00	0.12	0.12	0.00	0.12	0.12	623.02	0.03	0.00
Canal Widening/Lining	0.08	0.88	0.44	0.00	0.00	0.04	0.04	0.00	0.03	0.03	139.70	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	640.50	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.54	0.24	0.00
Canal Widening/Lining	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Canal Widening/Lining	0.29	2.43	3.72	0.01	0.00	0.10	0.10	0.00	0.10	0.10	623.02	0.03	0.00
Canal Widening/Lining	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	640.23	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Canal Widening/Lining	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Canal Widening/Lining	0.29	2.43	3.72	0.01	0.00	0.10	0.10	0.00	0.10	0.10	623.02	0.03	0.00
Canal Widening/Lining	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	640.23	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Canal Widening/Lining	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Canal Widening/Lining	0.29	2.43	3.72	0.01	0.00	0.10	0.10	0.00	0.10	0.10	623.02	0.03	0.00
Canal Widening/Lining	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	640.23	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Canal Widening/Lining	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Canal Widening/Lining	0.29	2.43	3.72	0.01	0.00	0.10	0.10	0.00	0.10	0.10	623.02	0.03	0.00
Canal Widening/Lining	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	640.23	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Canal Widening/Lining	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Canal Widening/Lining	0.29	2.43	3.72	0.01	0.00	0.10	0.10	0.00	0.10	0.10	623.02	0.03	0.00
Canal Widening/Lining	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Canal Widening/Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	640.23	0.21	0.00
Canal Widening/Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1654.68	0.54	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14678.87	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.23	2.15	3.27	0.01	0.00	0.10	0.10	0.00	0.10	0.10	500.18	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.84	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	733.94	0.24	0.00
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1654.04	0.54	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14702.69	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.20	1.78	3.26	0.01	0.00	0.09	0.09	0.00	0.08	0.08	500.01	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.63	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	735.13	0.24	0.00
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1653.97	0.53	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14701.04	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.19	1.55	3.26	0.01	0.00	0.08	0.08	0.00	0.07	0.07	500.10	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.42	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	735.05	0.24	0.00
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1653.93	0.53	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14690.73	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.18	1.40	3.26	0.01	0.00	0.07	0.07	0.00	0.06	0.06	500.26	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.25	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.54	0.24	0.00
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1653.89	0.53	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14681.22	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.17	1.22	3.26	0.01	0.00	0.06	0.06	0.00	0.06	0.06	500.33	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1653.89	0.53	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14681.22	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.17	1.22	3.26	0.01	0.00	0.06	0.06	0.00	0.06	0.06	500.33	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00

Offroad Equipment Exhaust Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	CalEEMod EF Year
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2027	12/31/2027	2027	2025
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2027	12/31/2027	2027	2025
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	1/1/2027	12/31/2027	2027	2025
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	1/1/2027	12/31/2027	2027	2025
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2027	12/31/2027	2027	2025
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2027	12/31/2027	2027	2025
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2028	12/31/2028	2028	2025
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2028	12/31/2028	2028	2025
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	1/1/2028	12/31/2028	2028	2025
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	1/1/2028	12/31/2028	2028	2025
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2028	12/31/2028	2028	2025
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2028	12/31/2028	2028	2025
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2029	2/28/2029	2029	2025
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2029	2/28/2029	2029	2025
Excavation-Borrow, Turnouts, Staging	Excavator	Excavators	672	1/1/2029	2/28/2029	2029	2025
Excavation-Borrow, Turnouts, Staging	Vibratory Compactor	Plate Compactors	672	1/1/2029	2/28/2029	2029	2025
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2029	2/28/2029	2029	2025
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2029	2/28/2029	2029	2025
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Motor grader	Graders	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Dewatering Pump System	Pumps	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Concrete Pump	Pumps	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Large Crane	Cranes	945	9/1/2021	12/31/2021	2021	2021
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Motor grader	Graders	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Dewatering Pump System	Pumps	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Concrete Pump	Pumps	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Large Crane	Cranes	945	9/1/2022	12/21/2022	2022	2022
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Motor grader	Graders	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Dewatering Pump System	Pumps	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Concrete Pump	Pumps	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Large Crane	Cranes	945	9/1/2023	12/31/2023	2023	2023
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Motor grader	Graders	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Dewatering Pump System	Pumps	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Concrete Pump	Pumps	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Large Crane	Cranes	945	9/1/2024	12/31/2024	2024	2024
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Motor grader	Graders	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Dewatering Pump System	Pumps	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Concrete Pump	Pumps	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Large Crane	Cranes	945	9/1/2025	12/31/2025	2025	2025
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Motor grader	Graders	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Dewatering Pump System	Pumps	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Concrete Pump	Pumps	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Large Crane	Cranes	945	9/1/2026	12/31/2026	2026	2025
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	Motor grader	Graders	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	Dewatering Pump System	Pumps	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	Concrete Pump	Pumps	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	9/1/2027	12/31/2027	2027	2025
Bridges/Siphons	Large Crane	Cranes	945	9/1/2027	12/31/2027	2027	2025

Offroad Equipment Exhaust Emissions	Days per Construction Year									
Phase	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0

Offroad Equipment Exhaust Emissions

Phase	Quantity[1]	Hours per Day[1]	HP[2]	LF[2]
Excavation-Borrow, Turnouts, Staging	2	8	247	0.4
Excavation-Borrow, Turnouts, Staging	10	8	367	0.48
Excavation-Borrow, Turnouts, Staging	1	8	158	0.38
Excavation-Borrow, Turnouts, Staging	1	8	8	0.43
Excavation-Borrow, Turnouts, Staging	1	4	187	0.41
Excavation-Borrow, Turnouts, Staging	1	4	367	0.48
Excavation-Borrow, Turnouts, Staging	2	8	247	0.4
Excavation-Borrow, Turnouts, Staging	10	8	367	0.48
Excavation-Borrow, Turnouts, Staging	1	8	158	0.38
Excavation-Borrow, Turnouts, Staging	1	8	8	0.43
Excavation-Borrow, Turnouts, Staging	1	4	187	0.41
Excavation-Borrow, Turnouts, Staging	1	4	367	0.48
Excavation-Borrow, Turnouts, Staging	2	8	247	0.4
Excavation-Borrow, Turnouts, Staging	10	8	367	0.48
Excavation-Borrow, Turnouts, Staging	1	8	158	0.38
Excavation-Borrow, Turnouts, Staging	1	8	8	0.43
Excavation-Borrow, Turnouts, Staging	1	4	187	0.41
Excavation-Borrow, Turnouts, Staging	1	4	367	0.48
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29

Offroad Equipment Exhaust Emissions	Emission Factor (g/bhp-hr)[2]												
Phase	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.16	1.15	3.08	0.01	0.00	0.06	0.06	0.00	0.05	0.05	472.50	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.16	1.15	3.08	0.01	0.00	0.06	0.06	0.00	0.05	0.05	472.50	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.16	1.15	3.08	0.01	0.00	0.06	0.06	0.00	0.05	0.05	472.50	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Excavation-Borrow, Turnouts, Staging	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.54	0.15	0.00
Bridges/Siphons	0.30	3.00	3.57	0.01	0.00	0.18	0.18	0.00	0.16	0.16	475.36	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.54	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.80	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Bridges/Siphons	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Bridges/Siphons	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Bridges/Siphons	0.44	3.08	3.67	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.04	0.00
Bridges/Siphons	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.00
Bridges/Siphons	0.26	2.65	3.54	0.01	0.00	0.14	0.14	0.00	0.13	0.13	475.90	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.90	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.24	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.62	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Bridges/Siphons	0.32	2.71	3.40	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Bridges/Siphons	0.32	2.71	3.40	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Bridges/Siphons	0.41	2.84	3.66	0.01	0.00	0.17	0.17	0.00	0.17	0.17	568.30	0.04	0.00
Bridges/Siphons	0.32	3.54	1.60	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.98	0.15	0.00
Bridges/Siphons	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.82	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.93	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.60	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Bridges/Siphons	0.30	2.51	3.40	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.00
Bridges/Siphons	0.30	2.51	3.40	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.00
Bridges/Siphons	0.39	2.63	3.66	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Bridges/Siphons	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	472.97	0.15	0.00
Bridges/Siphons	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	476.73	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.79	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.67	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.59	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.02	0.00
Bridges/Siphons	0.28	2.35	3.39	0.01	0.00	0.11	0.11	0.00	0.11	0.11	568.30	0.03	0.00
Bridges/Siphons	0.28	2.35	3.39	0.01	0.00	0.11	0.11	0.00	0.11	0.11	568.30	0.03	0.00
Bridges/Siphons	0.37	2.46	3.66	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.00
Bridges/Siphons	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.00
Bridges/Siphons	0.21	2.11	3.52	0.01	0.00	0.09	0.09	0.00	0.08	0.08	477.19	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Bridges/Siphons	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Bridges/Siphons	0.21	2.11	3.52	0.01	0.00	0.09	0.09	0.00	0.08	0.08	477.19	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Bridges/Siphons	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Bridges/Siphons	0.21	2.11	3.52	0.01	0.00	0.09	0.09	0.00	0.08	0.08	477.19	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Bridges/Siphons	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00

Offroad Equipment Exhaust Emissions	Emissions (lb/day)												
Phase	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1653.89	0.53	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14681.22	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.17	1.22	3.26	0.01	0.00	0.06	0.06	0.00	0.06	0.06	500.33	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1653.89	0.53	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14681.22	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.17	1.22	3.26	0.01	0.00	0.06	0.06	0.00	0.06	0.06	500.33	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Excavation-Borrow, Turnouts, Staging	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1653.89	0.53	0.00
Excavation-Borrow, Turnouts, Staging	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14681.22	4.75	0.00
Excavation-Borrow, Turnouts, Staging	0.17	1.22	3.26	0.01	0.00	0.06	0.06	0.00	0.06	0.06	500.33	0.16	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Excavation-Borrow, Turnouts, Staging	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	734.06	0.24	0.00
Bridges/Siphons	0.19	1.90	2.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	300.89	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.22	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.84	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.67	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.38	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.29	2.04	2.42	0.00	0.00	0.13	0.13	0.00	0.13	0.13	375.26	0.03	0.00
Bridges/Siphons	0.10	1.21	0.50	0.00	0.00	0.05	0.05	0.00	0.05	0.05	139.68	0.05	0.00
Bridges/Siphons	0.16	1.68	2.24	0.00	0.00	0.09	0.09	0.00	0.08	0.08	301.23	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.65	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.63	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.51	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.36	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.27	1.88	2.42	0.00	0.00	0.11	0.11	0.00	0.11	0.11	375.26	0.02	0.00
Bridges/Siphons	0.09	1.05	0.47	0.00	0.00	0.04	0.04	0.00	0.04	0.04	139.71	0.05	0.00
Bridges/Siphons	0.15	1.54	2.23	0.00	0.00	0.08	0.08	0.00	0.07	0.07	301.57	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.55	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.42	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.49	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.33	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.26	1.74	2.41	0.00	0.00	0.09	0.09	0.00	0.09	0.09	375.26	0.02	0.00
Bridges/Siphons	0.09	0.95	0.46	0.00	0.00	0.04	0.04	0.00	0.04	0.04	139.70	0.05	0.00
Bridges/Siphons	0.14	1.45	2.24	0.00	0.00	0.07	0.07	0.00	0.06	0.06	301.76	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.50	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.25	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.48	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.30	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.24	1.63	2.41	0.00	0.00	0.08	0.08	0.00	0.08	0.08	375.26	0.02	0.00
Bridges/Siphons	0.08	0.88	0.44	0.00	0.00	0.04	0.04	0.00	0.03	0.03	139.70	0.05	0.00
Bridges/Siphons	0.13	1.34	2.23	0.00	0.00	0.05	0.05	0.00	0.05	0.05	302.05	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.61	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.47	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.28	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Bridges/Siphons	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Bridges/Siphons	0.13	1.34	2.23	0.00	0.00	0.05	0.05	0.00	0.05	0.05	302.05	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.61	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.47	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.28	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Bridges/Siphons	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Bridges/Siphons	0.13	1.34	2.23	0.00	0.00	0.05	0.05	0.00	0.05	0.05	302.05	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.61	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.47	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.28	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Bridges/Siphons	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00

Offroad Equipment Exhaust Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	CalEEMod EF Year
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Motor grader	Graders	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Dewatering Pump System	Pumps	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Concrete Pump	Pumps	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Large Crane	Cranes	945	9/1/2028	12/31/2028	2028	2025
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Motor grader	Graders	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Dewatering Pump System	Pumps	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Concrete Pump	Pumps	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Large Crane	Cranes	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Large Excavator Backhoe	Tractors/Loaders/Backhoes	945	4/1/2029	12/31/2029	2029	2025
Bridges/Siphons	Frontend Loader	Rubber Tired Loaders	945	1/1/2030	4/30/2030	2030	2025
Bridges/Siphons	Vibratory Compactor	Plate Compactors	945	1/1/2030	4/30/2030	2030	2025
Bridges/Siphons	Motor grader	Graders	945	1/1/2030	4/30/2030	2030	2025
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	1/1/2030	4/30/2030	2030	2025
Bridges/Siphons	25 kVA Portable Generator	Generator Sets	945	1/1/2030	4/30/2030	2030	2025
Bridges/Siphons	Dewatering Pump System	Pumps	945	1/1/2030	4/30/2030	2030	2025
Bridges/Siphons	Concrete Pump	Pumps	945	1/1/2030	4/30/2030	2030	2025
Bridges/Siphons	Concrete Curing Applicator	Air Compressors	945	1/1/2030	4/30/2030	2030	2025
Bridges/Siphons	Large Crane	Cranes	945	1/1/2030	4/30/2030	2030	2025
Check Structures	Large Excavator Backhoe	Tractors/Loaders/Backhoes	84	1/1/2021	2/28/2021	2021	2021
Check Structures	Frontend Loader	Rubber Tired Loaders	84	1/1/2021	2/28/2021	2021	2021
Check Structures	Vibratory Compactor	Plate Compactors	42	7/1/2021	7/31/2021	2021	2021
Check Structures	Motor grader	Graders	42	7/1/2021	7/31/2021	2021	2021
Check Structures	Small Bulldozer	Rubber Tired Dozers	84	1/1/2021	7/31/2021	2021	2021
Check Structures	25 kVA Portable Generator	Generator Sets	84	1/1/2021	1/31/2021	2021	2021
Check Structures	Dewatering Pump System	Pumps	84	1/1/2021	2/28/2021	2021	2021
Check Structures	Concrete Pump	Pumps	168	3/1/2021	6/30/2021	2021	2021
Check Structures	Concrete Curing Applicator	Air Compressors	168	3/1/2021	6/30/2021	2021	2021
Check Structures	Large Crane	Cranes	168	3/1/2021	6/30/2021	2021	2021
Check Structures	Large Excavator Backhoe	Tractors/Loaders/Backhoes	84	1/1/2022	2/28/2022	2022	2022
Check Structures	Frontend Loader	Rubber Tired Loaders	84	1/1/2022	2/28/2022	2022	2022
Check Structures	Vibratory Compactor	Plate Compactors	42	7/1/2022	7/31/2022	2022	2022
Check Structures	Motor grader	Graders	42	7/1/2022	7/31/2022	2022	2022
Check Structures	Small Bulldozer	Rubber Tired Dozers	84	1/1/2022	7/31/2022	2022	2022
Check Structures	25 kVA Portable Generator	Generator Sets	84	1/1/2022	1/31/2022	2022	2022
Check Structures	Dewatering Pump System	Pumps	84	1/1/2022	2/28/2022	2022	2022
Check Structures	Concrete Pump	Pumps	168	3/1/2022	6/30/2022	2022	2022
Check Structures	Concrete Curing Applicator	Air Compressors	168	3/1/2022	6/30/2022	2022	2022
Check Structures	Large Crane	Cranes	168	3/1/2022	6/30/2022	2022	2022
Utility relocation	Small crane	Cranes	168	12/1/2021	12/31/2021	2021	2021
Utility relocation	Small crane	Cranes	168	12/1/2022	12/31/2022	2022	2022
Utility relocation	Small crane	Cranes	168	12/1/2023	12/31/2023	2023	2023
Utility relocation	Small crane	Cranes	168	12/1/2024	12/31/2024	2024	2024
Utility relocation	Small crane	Cranes	168	12/1/2025	12/31/2025	2025	2025
Utility relocation	Small crane	Cranes	168	12/1/2026	12/31/2026	2026	2025
Utility relocation	Small crane	Cranes	168	12/1/2027	12/31/2027	2027	2025
Utility relocation	Small crane	Cranes	168	12/1/2028	12/31/2028	2028	2025
Well abandonment	Small excavator	Excavators	30	1/1/2021	1/31/2021	2021	2021
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2021	12/31/2021	2021	2021
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2021	12/31/2021	2021	2021
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2022	12/31/2022	2022	2022
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2022	12/31/2022	2022	2022
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2023	12/31/2023	2023	2023
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2023	12/31/2023	2023	2023
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2024	12/31/2024	2024	2024
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2024	12/31/2024	2024	2024
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2025	12/31/2025	2025	2025
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2025	12/31/2025	2025	2025
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2026	12/31/2026	2026	2025
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2026	12/31/2026	2026	2025
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2027	12/31/2027	2027	2025
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2027	12/31/2027	2027	2025
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2028	12/31/2028	2028	2025
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2028	12/31/2028	2028	2025
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	3/1/2029	12/31/2029	2029	2025
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	3/1/2029	12/31/2029	2029	2025
Concrete Batch Plant	Loaders	Rubber Tired Loaders	1260	1/1/2030	8/31/2030	2030	2025
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	1260	1/1/2030	8/31/2030	2030	2025

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and powered by generator sets

Offroad Equipment Exhaust Emissions										
Phase										
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Check Structures	42	0	0	0	0	0	0	0	0	0
Check Structures	42	0	0	0	0	0	0	0	0	0
Check Structures	21	0	0	0	0	0	0	0	0	0
Check Structures	21	0	0	0	0	0	0	0	0	0
Check Structures	42	0	0	0	0	0	0	0	0	0
Check Structures	42	0	0	0	0	0	0	0	0	0
Check Structures	42	0	0	0	0	0	0	0	0	0
Check Structures	84	0	0	0	0	0	0	0	0	0
Check Structures	84	0	0	0	0	0	0	0	0	0
Check Structures	84	0	0	0	0	0	0	0	0	0
Check Structures	0	42	0	0	0	0	0	0	0	0
Check Structures	0	42	0	0	0	0	0	0	0	0
Check Structures	0	21	0	0	0	0	0	0	0	0
Check Structures	0	21	0	0	0	0	0	0	0	0
Check Structures	0	42	0	0	0	0	0	0	0	0
Check Structures	0	42	0	0	0	0	0	0	0	0
Check Structures	0	42	0	0	0	0	0	0	0	0
Check Structures	0	84	0	0	0	0	0	0	0	0
Check Structures	0	84	0	0	0	0	0	0	0	0
Utility relocation	21	0	0	0	0	0	0	0	0	0
Utility relocation	0	21	0	0	0	0	0	0	0	0
Utility relocation	0	0	21	0	0	0	0	0	0	0
Utility relocation	0	0	0	21	0	0	0	0	0	0
Utility relocation	0	0	0	0	21	0	0	0	0	0
Utility relocation	0	0	0	0	0	21	0	0	0	0
Utility relocation	0	0	0	0	0	0	21	0	0	0
Utility relocation	0	0	0	0	0	0	0	21	0	0
Well abandonment	30	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	252	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	252	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	0	252	0	0	0	0	0	0	0	0
Concrete Batch Plant	0	252	0	0	0	0	0	0	0	0
Concrete Batch Plant	0	0	63	0	0	0	0	0	0	0
Concrete Batch Plant	0	0	63	0	0	0	0	0	0	0
Concrete Batch Plant	0	0	0	63	0	0	0	0	0	0
Concrete Batch Plant	0	0	0	63	0	0	0	0	0	0
Concrete Batch Plant	0	0	0	0	63	0	0	0	0	0
Concrete Batch Plant	0	0	0	0	63	0	0	0	0	0
Concrete Batch Plant	0	0	0	0	0	63	0	0	0	0
Concrete Batch Plant	0	0	0	0	0	63	0	0	0	0
Concrete Batch Plant	0	0	0	0	0	0	63	0	0	0
Concrete Batch Plant	0	0	0	0	0	0	63	0	0	0
Concrete Batch Plant	0	0	0	0	0	0	0	63	0	0
Concrete Batch Plant	0	0	0	0	0	0	0	63	0	0
Concrete Batch Plant	0	0	0	0	0	0	0	0	210	0
Concrete Batch Plant	0	0	0	0	0	0	0	0	210	0
Concrete Batch Plant	0	0	0	0	0	0	0	0	0	168
Concrete Batch Plant	0	0	0	0	0	0	0	0	0	168

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and power

Offroad Equipment Exhaust Emissions

Phase	Quantity[1]	Hours per Day[1]	HP[2]	LF[2]
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Bridges/Siphons	1	8	97	0.37
Bridges/Siphons	2	4	203	0.36
Bridges/Siphons	1	8	8	0.43
Bridges/Siphons	1	4	187	0.41
Bridges/Siphons	1	4	247	0.4
Bridges/Siphons	4	24	84	0.74
Bridges/Siphons	0	24	84	0.74
Bridges/Siphons	0	8	84	0.74
Bridges/Siphons	1	8	78	0.48
Bridges/Siphons	1	2	231	0.29
Check Structures	1	8	97	0.37
Check Structures	2	4	203	0.36
Check Structures	1	8	8	0.43
Check Structures	1	4	187	0.41
Check Structures	1	4	247	0.4
Check Structures	4	24	84	0.74
Check Structures	0	24	84	0.74
Check Structures	0	8	84	0.74
Check Structures	1	8	78	0.48
Check Structures	1	2	231	0.29
Check Structures	1	8	97	0.37
Check Structures	2	4	203	0.36
Check Structures	1	8	8	0.43
Check Structures	1	4	187	0.41
Check Structures	1	4	247	0.4
Check Structures	4	24	84	0.74
Check Structures	0	24	84	0.74
Check Structures	0	8	84	0.74
Check Structures	1	8	78	0.48
Check Structures	1	2	231	0.29
Utility relocation	1	8	231	0.29
Utility relocation	1	8	231	0.29
Utility relocation	1	8	231	0.29
Utility relocation	1	8	231	0.29
Utility relocation	1	8	231	0.29
Utility relocation	1	8	231	0.29
Utility relocation	1	8	231	0.29
Utility relocation	1	8	231	0.29
Well abandonment	1	6	158	0.38
Concrete Batch Plant	2	8	203	0.36
Concrete Batch Plant	1	8	9	0.56
Concrete Batch Plant	2	8	203	0.36
Concrete Batch Plant	1	8	9	0.56
Concrete Batch Plant	2	8	203	0.36
Concrete Batch Plant	1	8	9	0.56
Concrete Batch Plant	2	8	203	0.36
Concrete Batch Plant	1	8	9	0.56
Concrete Batch Plant	2	8	203	0.36
Concrete Batch Plant	1	8	9	0.56
Concrete Batch Plant	2	8	203	0.36
Concrete Batch Plant	1	8	9	0.56
Concrete Batch Plant	2	8	203	0.36
Concrete Batch Plant	1	8	9	0.56
Concrete Batch Plant	2	8	203	0.36
Concrete Batch Plant	1	8	9	0.56

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and powere

Offroad Equipment Exhaust Emissions	Emission Factor (g/bhp-hr)[2]												
Phase	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Bridges/Siphons	0.21	2.11	3.52	0.01	0.00	0.09	0.09	0.00	0.08	0.08	477.19	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Bridges/Siphons	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Bridges/Siphons	0.21	2.11	3.52	0.01	0.00	0.09	0.09	0.00	0.08	0.08	477.19	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Bridges/Siphons	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Bridges/Siphons	0.21	2.11	3.52	0.01	0.00	0.09	0.09	0.00	0.08	0.08	477.19	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Bridges/Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.47	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.57	0.15	0.00
Bridges/Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.00
Bridges/Siphons	0.35	2.31	3.65	0.01	0.00	0.10	0.10	0.00	0.10	0.10	568.30	0.03	0.00
Bridges/Siphons	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Check Structures	0.30	3.00	3.57	0.01	0.00	0.18	0.18	0.00	0.16	0.16	475.36	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Check Structures	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.54	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.80	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Check Structures	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Check Structures	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Check Structures	0.44	3.08	3.67	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.04	0.00
Check Structures	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.00
Check Structures	0.26	2.65	3.54	0.01	0.00	0.14	0.14	0.00	0.13	0.13	475.90	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.90	0.15	0.00
Check Structures	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.24	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.62	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Check Structures	0.32	2.71	3.40	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Check Structures	0.32	2.71	3.40	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Check Structures	0.41	2.84	3.66	0.01	0.00	0.17	0.17	0.00	0.17	0.17	568.30	0.04	0.00
Check Structures	0.32	3.54	1.60	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.98	0.15	0.00
Utility relocation	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.00
Utility relocation	0.32	3.54	1.60	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.98	0.15	0.00
Utility relocation	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	472.97	0.15	0.00
Utility relocation	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.00
Utility relocation	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Utility relocation	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Utility relocation	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Utility relocation	0.27	2.68	1.47	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.98	0.15	0.00
Well abandonment	0.22	2.03	3.09	0.01	0.00	0.10	0.10	0.00	0.09	0.09	472.36	0.15	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.90	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.82	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.79	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.87	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and powere

Offroad Equipment Exhaust Emissions	Emissions (lb/day)												
Phase	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Bridges/Siphons	0.13	1.34	2.23	0.00	0.00	0.05	0.05	0.00	0.05	0.05	302.05	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.61	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.47	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.28	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Bridges/Siphons	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Bridges/Siphons	0.13	1.34	2.23	0.00	0.00	0.05	0.05	0.00	0.05	0.05	302.05	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.61	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.47	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.28	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Bridges/Siphons	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Bridges/Siphons	0.13	1.34	2.23	0.00	0.00	0.05	0.05	0.00	0.05	0.05	302.05	0.10	0.00
Bridges/Siphons	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.61	0.20	0.00
Bridges/Siphons	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Bridges/Siphons	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.11	0.10	0.00
Bridges/Siphons	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.47	0.13	0.00
Bridges/Siphons	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.28	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.23	1.53	2.41	0.00	0.00	0.07	0.07	0.00	0.07	0.07	375.26	0.02	0.00
Bridges/Siphons	0.08	0.79	0.43	0.00	0.00	0.03	0.03	0.00	0.03	0.03	139.70	0.05	0.00
Check Structures	0.19	1.90	2.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	300.89	0.10	0.00
Check Structures	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.22	0.20	0.00
Check Structures	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Check Structures	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.84	0.10	0.00
Check Structures	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.67	0.13	0.00
Check Structures	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.38	0.00
Check Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.29	2.04	2.42	0.00	0.00	0.13	0.13	0.00	0.13	0.13	375.26	0.03	0.00
Check Structures	0.10	1.21	0.50	0.00	0.00	0.05	0.05	0.00	0.05	0.05	139.68	0.05	0.00
Check Structures	0.16	1.68	2.24	0.00	0.00	0.09	0.09	0.00	0.08	0.08	301.23	0.10	0.00
Check Structures	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.65	0.20	0.00
Check Structures	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Check Structures	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.63	0.10	0.00
Check Structures	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.51	0.13	0.00
Check Structures	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.36	0.00
Check Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.27	1.88	2.42	0.00	0.00	0.11	0.11	0.00	0.11	0.11	375.26	0.02	0.00
Check Structures	0.09	1.05	0.47	0.00	0.00	0.04	0.04	0.00	0.04	0.04	139.71	0.05	0.00
Utility relocation	0.41	4.85	1.98	0.01	0.00	0.20	0.20	0.00	0.18	0.18	558.73	0.18	0.00
Utility relocation	0.37	4.18	1.89	0.01	0.00	0.17	0.17	0.00	0.16	0.16	558.82	0.18	0.00
Utility relocation	0.35	3.82	1.83	0.01	0.00	0.16	0.16	0.00	0.15	0.15	558.81	0.18	0.00
Utility relocation	0.33	3.50	1.77	0.01	0.00	0.15	0.15	0.00	0.13	0.13	558.80	0.18	0.00
Utility relocation	0.31	3.17	1.74	0.01	0.00	0.13	0.13	0.00	0.12	0.12	558.82	0.18	0.00
Utility relocation	0.31	3.17	1.74	0.01	0.00	0.13	0.13	0.00	0.12	0.12	558.82	0.18	0.00
Utility relocation	0.31	3.17	1.74	0.01	0.00	0.13	0.13	0.00	0.12	0.12	558.82	0.18	0.00
Utility relocation	0.31	3.17	1.74	0.01	0.00	0.13	0.13	0.00	0.12	0.12	558.82	0.18	0.00
Well abandonment	0.17	1.62	2.45	0.00	0.00	0.08	0.08	0.00	0.07	0.07	375.14	0.12	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1210.43	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.31	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.10	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.01	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.22	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.22	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.22	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.22	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.22	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1211.22	0.39	0.00
Concrete Batch Plant	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and power

Truck Loading Emissions

Phase	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	Days per Construction Year 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Excavation Quantity (CY)[1]	Conversion Factor (tons/CY)[2]	Excavation Quantity (tons)	Emission Factor (lb/ton)[3] PM10	PM2.5	Emissions (lb/day)[4] PM10	PM2.5
Excavation-Borrow, Turnouts, Staging	672	11/1/2021	12/31/2021	2021	42	0	0	0	0	0	0	0	0	0	6000000	1.264	7584997.2	1.17E-04	1.76E-05	0.51	0.08
Excavation-Borrow, Turnouts, Staging	672	1/1/2022	12/31/2022	2022	0	84	0	0	0	0	0	0	0	0							
Excavation-Borrow, Turnouts, Staging	672	1/1/2023	12/31/2023	2023	0	0	84	0	0	0	0	0	0	0							
Excavation-Borrow, Turnouts, Staging	672	1/1/2024	12/31/2024	2024	0	0	0	84	0	0	0	0	0	0							
Excavation-Borrow, Turnouts, Staging	672	1/1/2025	12/31/2025	2025	0	0	0	0	84	0	0	0	0	0							
Excavation-Borrow, Turnouts, Staging	672	1/1/2026	12/31/2026	2026	0	0	0	0	0	84	0	0	0	0							
Excavation-Borrow, Turnouts, Staging	672	1/1/2027	12/31/2027	2027	0	0	0	0	0	0	84	0	0	0							
Excavation-Borrow, Turnouts, Staging	672	1/1/2028	12/31/2028	2028	0	0	0	0	0	0	0	84	0	0							
Excavation-Borrow, Turnouts, Staging	672	1/1/2029	2/28/2029	2029	0	0	0	0	0	0	0	0	42	0							

Notes:

1) Information provided from applicant

2) Value based on CalEEMod User's Guide, Appendix A

3) Emission factor based on CalEEMod Methodology

4) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Truck Loading Emissions

	Annual Emissions (tons per year)												
Year	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
2021	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
2027	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
2028	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
2029	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
2030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Bulldozing Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	11/1/2021	12/31/2021	2021
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2022	12/31/2022	2022
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2023	12/31/2023	2023
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2024	12/31/2024	2024
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2025	12/31/2025	2025
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2026	12/31/2026	2026
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2027	12/31/2027	2027
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2028	12/31/2028	2028
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2029	2/28/2029	2029
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2021	12/31/2021	2021
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2022	12/21/2022	2022
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2023	12/31/2023	2023
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2024	12/31/2024	2024
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2025	12/31/2025	2025
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2026	12/31/2026	2026
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2027	12/31/2027	2027
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2028	12/31/2028	2028
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	4/1/2029	12/31/2029	2029
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	1/1/2030	4/30/2030	2030
Check Structures	Small Bulldozer	Rubber Tired Dozers	84	1/1/2021	7/31/2021	2021
Check Structures	Small Bulldozer	Rubber Tired Dozers	84	1/1/2022	7/31/2022	2022

Notes:

1) Information provided from applicant

2) Emission factor based on CalEEMod Methodology

3) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Bulldozing Emissions	Days per Construction Year												Emission Factor (lb/hr)[2]		Emissions (lb/day)[3]	
Phase	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Quantity[1]	Hours per Day[1]	PM10	PM2.5	PM10	PM2.5
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0	2	8	0.75	0.41	4.70	2.58
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0	2	8	0.75	0.41	4.70	2.58
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0	2	8	0.75	0.41	4.70	2.58
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0	2	8	0.75	0.41	4.70	2.58
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0	2	8	0.75	0.41	4.70	2.58
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0	2	8	0.75	0.41	4.70	2.58
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0	2	8	0.75	0.41	4.70	2.58
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0	2	8	0.75	0.41	4.70	2.58
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0	2	8	0.75	0.41	4.70	2.58
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0	1	4	0.75	0.41	1.17	0.65
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84	1	4	0.75	0.41	1.17	0.65
Check Structures	42	0	0	0	0	0	0	0	0	0	1	4	0.75	0.41	1.17	0.65
Check Structures	0	42	0	0	0	0	0	0	0	0	1	4	0.75	0.41	1.17	0.65

Notes:

1) Information provided from applicant

2) Emission factor based on CalEEMod Methodology

3) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Bulldozing Emissions

	Annual Emissions (tons per year)												
Year	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
2021	0.00	0.00	0.00	0.00	0.17	0.00	0.17	0.09	0.00	0.09	0.00	0.00	0.00
2022	0.00	0.00	0.00	0.00	0.27	0.00	0.27	0.15	0.00	0.15	0.00	0.00	0.00
2023	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.14	0.00	0.14	0.00	0.00	0.00
2024	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.14	0.00	0.14	0.00	0.00	0.00
2025	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.14	0.00	0.14	0.00	0.00	0.00
2026	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.14	0.00	0.14	0.00	0.00	0.00
2027	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.14	0.00	0.14	0.00	0.00	0.00
2028	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.14	0.00	0.14	0.00	0.00	0.00
2029	0.00	0.00	0.00	0.00	0.21	0.00	0.21	0.12	0.00	0.12	0.00	0.00	0.00
2030	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.03	0.00	0.03	0.00	0.00	0.00

Grading Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN
Canal Widening/Lining	Motor Grader	Graders	336	12/1/2021	12/31/2021	2021
Canal Widening/Lining	Gradall scraper	Scrapers	336	12/1/2021	12/31/2021	2021
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2022	12/31/2022	2022
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2022	12/31/2022	2022
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2023	12/31/2023	2023
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2023	12/31/2023	2023
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2024	12/31/2024	2024
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2024	12/31/2024	2024
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2025	12/31/2025	2025
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2025	12/31/2025	2025
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2026	12/31/2026	2026
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2026	12/31/2026	2026
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2027	12/31/2027	2027
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2027	12/31/2027	2027
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2028	12/31/2028	2028
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2028	12/31/2028	2028
Canal Widening/Lining	Motor Grader	Graders	336	1/1/2029	2/28/2029	2029
Canal Widening/Lining	Gradall scraper	Scrapers	336	1/1/2029	2/28/2029	2029
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	11/1/2021	12/31/2021	2021
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	11/1/2021	12/31/2021	2021
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	11/1/2021	12/31/2021	2021
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	11/1/2021	12/31/2021	2021
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2022	12/31/2022	2022
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2022	12/31/2022	2022
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2022	12/31/2022	2022
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2022	12/31/2022	2022
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2023	12/31/2023	2023
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2023	12/31/2023	2023
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2023	12/31/2023	2023
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2023	12/31/2023	2023
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2024	12/31/2024	2024
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2024	12/31/2024	2024
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2024	12/31/2024	2024
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2024	12/31/2024	2024
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2025	12/31/2025	2025
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2025	12/31/2025	2025
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2025	12/31/2025	2025
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2025	12/31/2025	2025
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2026	12/31/2026	2026

Grading Emissions	Days per Construction Year									
Phase	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	42	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	42	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	42	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	42	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	42	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	42	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	42	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	42	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	42	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	42	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	42	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	42	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	42	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	42	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	21	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	21	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0

Grading Emissions

Phase	Acres/8hr-day per Equipment Type	Quantity[1]	Hours per Day[1]	Scaling Factor	Total Acres/8hr-day	VMT	PM10	PM2.5	PM10	PM2.5
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Canal Widening/Lining	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04

Grading Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2026	12/31/2026	2026
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2026	12/31/2026	2026
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2026	12/31/2026	2026
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2027	12/31/2027	2027
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2027	12/31/2027	2027
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2027	12/31/2027	2027
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2027	12/31/2027	2027
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2028	12/31/2028	2028
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2028	12/31/2028	2028
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2028	12/31/2028	2028
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2028	12/31/2028	2028
Excavation-Borrow, Turnouts, Staging	Dozers	Rubber Tired Dozers	672	1/1/2029	2/28/2029	2029
Excavation-Borrow, Turnouts, Staging	Scrapers	Scrapers	672	1/1/2029	2/28/2029	2029
Excavation-Borrow, Turnouts, Staging	Motor Grader	Graders	672	1/1/2029	2/28/2029	2029
Excavation-Borrow, Turnouts, Staging	Gradall scraper	Scrapers	672	1/1/2029	2/28/2029	2029
Bridges/Siphons	Motor grader	Graders	945	9/1/2021	12/31/2021	2021
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2021	12/31/2021	2021
Bridges/Siphons	Motor grader	Graders	945	9/1/2022	12/21/2022	2022
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2022	12/21/2022	2022
Bridges/Siphons	Motor grader	Graders	945	9/1/2023	12/31/2023	2023
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2023	12/31/2023	2023
Bridges/Siphons	Motor grader	Graders	945	9/1/2024	12/31/2024	2024
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2024	12/31/2024	2024
Bridges/Siphons	Motor grader	Graders	945	9/1/2025	12/31/2025	2025
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2025	12/31/2025	2025
Bridges/Siphons	Motor grader	Graders	945	9/1/2026	12/31/2026	2026
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2026	12/31/2026	2026
Bridges/Siphons	Motor grader	Graders	945	9/1/2027	12/31/2027	2027
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2027	12/31/2027	2027
Bridges/Siphons	Motor grader	Graders	945	9/1/2028	12/31/2028	2028
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	9/1/2028	12/31/2028	2028
Bridges/Siphons	Motor grader	Graders	945	4/1/2029	12/31/2029	2029
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	4/1/2029	12/31/2029	2029
Bridges/Siphons	Motor grader	Graders	945	1/1/2030	4/30/2030	2030
Bridges/Siphons	Small Bulldozer	Rubber Tired Dozers	945	1/1/2030	4/30/2030	2030
Check Structures	Motor grader	Graders	42	7/1/2021	7/31/2021	2021
Check Structures	Small Bulldozer	Rubber Tired Dozers	84	1/1/2021	7/31/2021	2021
Check Structures	Motor grader	Graders	42	7/1/2022	7/31/2022	2022
Check Structures	Small Bulldozer	Rubber Tired Dozers	84	1/1/2022	7/31/2022	2022

1) Information provided from applicant

2) Emission factor based on CalEEMod Methodology

3) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Grading Emissions

Phase										
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Check Structures	21	0	0	0	0	0	0	0	0	0
Check Structures	42	0	0	0	0	0	0	0	0	0
Check Structures	0	21	0	0	0	0	0	0	0	0
Check Structures	0	42	0	0	0	0	0	0	0	0

1) Information provided from applicant

2) Emission factor based on CalEEMod Methodology

3) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Grading Emissions

Phase	Acres/8hr-day per Equipment Type	Quantity[1]	Hours per Day[1]	Scaling Factor	Total Acres/8hr-day	VMT	Emission Factor (lb/VMT)[2] PM10	Emission Factor (lb/VMT)[2] PM2.5	Emissions (lb/day)[3] PM10	Emissions (lb/day)[3] PM2.5
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-Borrow, Turnouts, Staging	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-Borrow, Turnouts, Staging	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-Borrow, Turnouts, Staging	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Excavation-Borrow, Turnouts, Staging	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Bridges/Siphons	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Check Structures	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Check Structures	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Check Structures	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Check Structures	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01

Equipment Type	Acres/8-hr day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

1) Information provided from applicant

2) Emission factor based on CalEEMod Methodology

3) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Grading Emissions

	Annual Emissions (tons per year)												
Year	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
2021	0.00	0.00	0.00	0.00	0.12	0.00	0.12	0.01	0.00	0.01	0.00	0.00	0.00
2022	0.00	0.00	0.00	0.00	0.22	0.00	0.22	0.02	0.00	0.02	0.00	0.00	0.00
2023	0.00	0.00	0.00	0.00	0.22	0.00	0.22	0.02	0.00	0.02	0.00	0.00	0.00
2024	0.00	0.00	0.00	0.00	0.22	0.00	0.22	0.02	0.00	0.02	0.00	0.00	0.00
2025	0.00	0.00	0.00	0.00	0.22	0.00	0.22	0.02	0.00	0.02	0.00	0.00	0.00
2026	0.00	0.00	0.00	0.00	0.22	0.00	0.22	0.02	0.00	0.02	0.00	0.00	0.00
2027	0.00	0.00	0.00	0.00	0.22	0.00	0.22	0.02	0.00	0.02	0.00	0.00	0.00
2028	0.00	0.00	0.00	0.00	0.22	0.00	0.22	0.02	0.00	0.02	0.00	0.00	0.00
2029	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.01	0.00	0.01	0.00	0.00	0.00
2030	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Light Duty Support Vehicle Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End
Segment 4 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	147	5/1/2029	11/30/2029
Segment 1 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	189	12/1/2029	12/31/2029
Segment 1 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	189	1/1/2030	8/31/2030
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	12/1/2021	12/31/2021
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2022	12/31/2022
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2023	12/31/2023
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2024	12/31/2024
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2025	12/31/2025
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2026	12/31/2026
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2027	12/31/2027
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2028	12/31/2028
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2029	2/28/2029
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	11/1/2021	12/31/2021
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2022	12/31/2022
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2023	12/31/2023
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2024	12/31/2024
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2025	12/31/2025
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2026	12/31/2026
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2027	12/31/2027
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2028	12/31/2028
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2029	2/28/2029
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2021	12/31/2021
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2022	12/21/2022
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2023	12/31/2023
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2024	12/31/2024
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2025	12/31/2025
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2026	12/31/2026
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2027	12/31/2027
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2028	12/31/2028
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	4/1/2029	12/31/2029
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	1/1/2030	4/30/2030
Check Structures	Pickup trucks/commuter vehicles	LD Fleet Mix	294	1/1/2021	7/31/2021
Check Structures	Pickup trucks/commuter vehicles	LD Fleet Mix	294	1/1/2022	7/31/2022
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2021	12/31/2021
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2022	12/31/2022
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2023	12/31/2023
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2024	12/31/2024
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2025	12/31/2025
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2026	12/31/2026
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2027	12/31/2027
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2028	12/31/2028
Well abandonment	Pickup trucks/commuter vehicles	LD Fleet Mix	30	1/1/2021	1/31/2021
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2021	12/31/2021
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2022	12/31/2022
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2023	12/31/2023
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2024	12/31/2024
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2025	12/31/2025
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2026	12/31/2026
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2027	12/31/2027
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2028	12/31/2028
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	3/1/2029	12/31/2029
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2030	8/31/2030

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Light Duty Support Vehicle Emissions										
Phase										
Segment 4 Canal Lining	0	0	0	0	0	0	0	0	147	0
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	21	0
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	0	168
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	63	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	63	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	63	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	63	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	63	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	63	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	63	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Check Structures	147	0	0	0	0	0	0	0	0	0
Check Structures	0	147	0	0	0	0	0	0	0	0
Utility relocation	21	0	0	0	0	0	0	0	0	0
Utility relocation	0	21	0	0	0	0	0	0	0	0
Utility relocation	0	0	21	0	0	0	0	0	0	0
Utility relocation	0	0	0	21	0	0	0	0	0	0
Utility relocation	0	0	0	0	21	0	0	0	0	0
Utility relocation	0	0	0	0	0	21	0	0	0	0
Utility relocation	0	0	0	0	0	0	21	0	0	0
Utility relocation	0	0	0	0	0	0	0	21	0	0
Well abandonment	0	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	252	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	0	252	0	0	0	0	0	0	0	0
Concrete Batch Plant	0	0	63	0	0	0	0	0	0	0
Concrete Batch Plant	0	0	0	63	0	0	0	0	0	0
Concrete Batch Plant	0	0	0	0	63	0	0	0	0	0
Concrete Batch Plant	0	0	0	0	0	63	0	0	0	0
Concrete Batch Plant	0	0	0	0	0	0	63	0	0	0
Concrete Batch Plant	0	0	0	0	0	0	0	63	0	0
Concrete Batch Plant	0	0	0	0	0	0	0	0	210	0
Concrete Batch Plant	0	0	0	0	0	0	0	0	0	168

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process f

3) Light duty vehicles do not have separate idling emissio

Light Duty Support Vehicle Emissions

Phase	Year	Quantity[1]	Vehicle Speed (mph)	Hours per day	VMT
Segment 4 Canal Lining	2029	10	15	2	30
Segment 1 Canal Lining	2029	10	15	2	30
Segment 1 Canal Lining	2030	10	15	2	30
Canal Widening/Lining	2021	20	15	2	30
Canal Widening/Lining	2022	20	15	2	30
Canal Widening/Lining	2023	20	15	2	30
Canal Widening/Lining	2024	20	15	2	30
Canal Widening/Lining	2025	20	15	2	30
Canal Widening/Lining	2026	20	15	2	30
Canal Widening/Lining	2027	20	15	2	30
Canal Widening/Lining	2028	20	15	2	30
Canal Widening/Lining	2029	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2021	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2022	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2023	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2024	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2025	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2026	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2027	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2028	20	15	2	30
Excavation-Borrow, Turnouts, Staging	2029	20	15	2	30
Bridges/Siphons	2021	20	15	2	30
Bridges/Siphons	2022	20	15	2	30
Bridges/Siphons	2023	20	15	2	30
Bridges/Siphons	2024	20	15	2	30
Bridges/Siphons	2025	20	15	2	30
Bridges/Siphons	2026	20	15	2	30
Bridges/Siphons	2027	20	15	2	30
Bridges/Siphons	2028	20	15	2	30
Bridges/Siphons	2029	20	15	2	30
Bridges/Siphons	2030	20	15	2	30
Check Structures	2021	12	15	4	60
Check Structures	2022	12	15	4	60
Utility relocation	2021	4	15	4	60
Utility relocation	2022	4	15	4	60
Utility relocation	2023	4	15	4	60
Utility relocation	2024	4	15	4	60
Utility relocation	2025	4	15	4	60
Utility relocation	2026	4	15	4	60
Utility relocation	2027	4	15	4	60
Utility relocation	2028	4	15	4	60
Well abandonment	2021	2	15	8	120
Concrete Batch Plant	2021	6	15	8	120
Concrete Batch Plant	2022	6	15	8	120
Concrete Batch Plant	2023	6	15	8	120
Concrete Batch Plant	2024	6	15	8	120
Concrete Batch Plant	2025	6	15	8	120
Concrete Batch Plant	2026	6	15	8	120
Concrete Batch Plant	2027	6	15	8	120
Concrete Batch Plant	2028	6	15	8	120
Concrete Batch Plant	2029	6	15	8	120
Concrete Batch Plant	2030	6	15	8	120

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process f

3) Light duty vehicles do not have separate idling emissi

Light Duty Support Vehicle Emissions	Running Emission Factor (g/mi)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.02	0.05	0.90	0.00	0.34	0.00	0.35	0.09	0.00	0.09	392.13	0.01	0.01
Segment 1 Canal Lining	0.02	0.05	0.90	0.00	0.34	0.00	0.35	0.09	0.00	0.09	392.13	0.01	0.01
Segment 1 Canal Lining	0.02	0.04	0.86	0.00	0.34	0.00	0.35	0.09	0.00	0.09	383.91	0.00	0.01
Canal Widening/Lining	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Canal Widening/Lining	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Canal Widening/Lining	0.04	0.09	1.39	0.00	0.34	0.00	0.35	0.09	0.00	0.10	462.59	0.01	0.01
Canal Widening/Lining	0.04	0.08	1.27	0.00	0.34	0.00	0.35	0.09	0.00	0.10	448.91	0.01	0.01
Canal Widening/Lining	0.03	0.07	1.17	0.00	0.34	0.00	0.35	0.09	0.00	0.10	435.27	0.01	0.01
Canal Widening/Lining	0.03	0.06	1.08	0.00	0.34	0.00	0.35	0.09	0.00	0.09	422.98	0.01	0.01
Canal Widening/Lining	0.02	0.06	1.01	0.00	0.34	0.00	0.35	0.09	0.00	0.09	411.58	0.01	0.01
Canal Widening/Lining	0.02	0.05	0.95	0.00	0.34	0.00	0.35	0.09	0.00	0.09	401.33	0.01	0.01
Canal Widening/Lining	0.02	0.05	0.90	0.00	0.34	0.00	0.35	0.09	0.00	0.09	392.13	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.04	0.09	1.39	0.00	0.34	0.00	0.35	0.09	0.00	0.10	462.59	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.04	0.08	1.27	0.00	0.34	0.00	0.35	0.09	0.00	0.10	448.91	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.03	0.07	1.17	0.00	0.34	0.00	0.35	0.09	0.00	0.10	435.27	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.03	0.06	1.08	0.00	0.34	0.00	0.35	0.09	0.00	0.09	422.98	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.02	0.06	1.01	0.00	0.34	0.00	0.35	0.09	0.00	0.09	411.58	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.02	0.05	0.95	0.00	0.34	0.00	0.35	0.09	0.00	0.09	401.33	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.02	0.05	0.90	0.00	0.34	0.00	0.35	0.09	0.00	0.09	392.13	0.01	0.01
Bridges/Siphons	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Bridges/Siphons	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Bridges/Siphons	0.04	0.09	1.39	0.00	0.34	0.00	0.35	0.09	0.00	0.10	462.59	0.01	0.01
Bridges/Siphons	0.04	0.08	1.27	0.00	0.34	0.00	0.35	0.09	0.00	0.10	448.91	0.01	0.01
Bridges/Siphons	0.03	0.07	1.17	0.00	0.34	0.00	0.35	0.09	0.00	0.10	435.27	0.01	0.01
Bridges/Siphons	0.03	0.06	1.08	0.00	0.34	0.00	0.35	0.09	0.00	0.09	422.98	0.01	0.01
Bridges/Siphons	0.02	0.06	1.01	0.00	0.34	0.00	0.35	0.09	0.00	0.09	411.58	0.01	0.01
Bridges/Siphons	0.02	0.05	0.95	0.00	0.34	0.00	0.35	0.09	0.00	0.09	401.33	0.01	0.01
Bridges/Siphons	0.02	0.05	0.90	0.00	0.34	0.00	0.35	0.09	0.00	0.09	392.13	0.01	0.01
Bridges/Siphons	0.02	0.04	0.86	0.00	0.34	0.00	0.35	0.09	0.00	0.09	383.91	0.00	0.01
Check Structures	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Check Structures	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Utility relocation	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Utility relocation	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Utility relocation	0.04	0.09	1.39	0.00	0.34	0.00	0.35	0.09	0.00	0.10	462.59	0.01	0.01
Utility relocation	0.04	0.08	1.27	0.00	0.34	0.00	0.35	0.09	0.00	0.10	448.91	0.01	0.01
Utility relocation	0.03	0.07	1.17	0.00	0.34	0.00	0.35	0.09	0.00	0.10	435.27	0.01	0.01
Utility relocation	0.03	0.06	1.08	0.00	0.34	0.00	0.35	0.09	0.00	0.09	422.98	0.01	0.01
Utility relocation	0.02	0.06	1.01	0.00	0.34	0.00	0.35	0.09	0.00	0.09	411.58	0.01	0.01
Utility relocation	0.02	0.05	0.95	0.00	0.34	0.00	0.35	0.09	0.00	0.09	401.33	0.01	0.01
Well abandonment	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Concrete Batch Plant	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Concrete Batch Plant	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Concrete Batch Plant	0.04	0.09	1.39	0.00	0.34	0.00	0.35	0.09	0.00	0.10	462.59	0.01	0.01
Concrete Batch Plant	0.04	0.08	1.27	0.00	0.34	0.00	0.35	0.09	0.00	0.10	448.91	0.01	0.01
Concrete Batch Plant	0.03	0.07	1.17	0.00	0.34	0.00	0.35	0.09	0.00	0.10	435.27	0.01	0.01
Concrete Batch Plant	0.03	0.06	1.08	0.00	0.34	0.00	0.35	0.09	0.00	0.09	422.98	0.01	0.01
Concrete Batch Plant	0.02	0.06	1.01	0.00	0.34	0.00	0.35	0.09	0.00	0.09	411.58	0.01	0.01
Concrete Batch Plant	0.02	0.05	0.95	0.00	0.34	0.00	0.35	0.09	0.00	0.09	401.33	0.01	0.01
Concrete Batch Plant	0.02	0.05	0.90	0.00	0.34	0.00	0.35	0.09	0.00	0.09	392.13	0.01	0.01
Concrete Batch Plant	0.02	0.04	0.86	0.00	0.34	0.00	0.35	0.09	0.00	0.09	383.91	0.00	0.01

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process f

3) Light duty vehicles do not have separate idling emissi

Light Duty Support Vehicle Emissions	Non-Running Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Segment 1 Canal Lining	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Segment 1 Canal Lining	0.69	0.16	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.20	0.04	0.02
Canal Widening/Lining	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Canal Widening/Lining	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Canal Widening/Lining	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Canal Widening/Lining	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Canal Widening/Lining	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Canal Widening/Lining	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Canal Widening/Lining	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Canal Widening/Lining	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Canal Widening/Lining	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Excavation-Borrow, Turnouts, Staging	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Excavation-Borrow, Turnouts, Staging	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Excavation-Borrow, Turnouts, Staging	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Excavation-Borrow, Turnouts, Staging	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Excavation-Borrow, Turnouts, Staging	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Excavation-Borrow, Turnouts, Staging	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Excavation-Borrow, Turnouts, Staging	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Excavation-Borrow, Turnouts, Staging	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Excavation-Borrow, Turnouts, Staging	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Bridges/Siphons	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Bridges/Siphons	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Bridges/Siphons	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Bridges/Siphons	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Bridges/Siphons	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Bridges/Siphons	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Bridges/Siphons	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Bridges/Siphons	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Bridges/Siphons	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Bridges/Siphons	0.69	0.16	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.20	0.04	0.02
Check Structures	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Check Structures	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Utility relocation	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Utility relocation	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Utility relocation	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Utility relocation	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Utility relocation	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Utility relocation	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Utility relocation	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Utility relocation	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Well abandonment	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Concrete Batch Plant	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Concrete Batch Plant	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Concrete Batch Plant	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Concrete Batch Plant	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Concrete Batch Plant	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Concrete Batch Plant	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Concrete Batch Plant	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Concrete Batch Plant	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Concrete Batch Plant	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Concrete Batch Plant	0.69	0.16	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.20	0.04	0.02

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process f

3) Light duty vehicles do not have separate idling emissi

Light Duty Support Vehicle Emissions	Running + Non-Running Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.04	0.04	0.68	0.00	0.23	0.00	0.23	0.06	0.00	0.06	261.61	0.01	0.00
Segment 1 Canal Lining	0.04	0.04	0.68	0.00	0.23	0.00	0.23	0.06	0.00	0.06	261.61	0.01	0.00
Segment 1 Canal Lining	0.04	0.04	0.65	0.00	0.23	0.00	0.23	0.06	0.00	0.06	256.12	0.00	0.00
Canal Widening/Lining	0.19	0.19	2.50	0.01	0.46	0.01	0.46	0.12	0.01	0.13	654.59	0.02	0.02
Canal Widening/Lining	0.17	0.17	2.26	0.01	0.46	0.01	0.46	0.12	0.01	0.13	635.87	0.02	0.01
Canal Widening/Lining	0.15	0.15	2.05	0.01	0.46	0.01	0.46	0.12	0.01	0.13	617.26	0.02	0.01
Canal Widening/Lining	0.14	0.13	1.88	0.01	0.46	0.01	0.46	0.12	0.01	0.13	599.00	0.02	0.01
Canal Widening/Lining	0.13	0.11	1.74	0.01	0.46	0.01	0.46	0.12	0.01	0.13	580.80	0.02	0.01
Canal Widening/Lining	0.12	0.10	1.62	0.01	0.46	0.01	0.46	0.12	0.00	0.13	564.40	0.01	0.01
Canal Widening/Lining	0.11	0.09	1.52	0.01	0.46	0.01	0.46	0.12	0.00	0.13	549.19	0.01	0.01
Canal Widening/Lining	0.10	0.08	1.44	0.01	0.46	0.00	0.46	0.12	0.00	0.13	535.51	0.01	0.01
Canal Widening/Lining	0.09	0.08	1.37	0.01	0.46	0.00	0.46	0.12	0.00	0.12	523.22	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.19	0.19	2.50	0.01	0.46	0.01	0.46	0.12	0.01	0.13	654.59	0.02	0.02
Excavation-Borrow, Turnouts, Staging	0.17	0.17	2.26	0.01	0.46	0.01	0.46	0.12	0.01	0.13	635.87	0.02	0.01
Excavation-Borrow, Turnouts, Staging	0.15	0.15	2.05	0.01	0.46	0.01	0.46	0.12	0.01	0.13	617.26	0.02	0.01
Excavation-Borrow, Turnouts, Staging	0.14	0.13	1.88	0.01	0.46	0.01	0.46	0.12	0.01	0.13	599.00	0.02	0.01
Excavation-Borrow, Turnouts, Staging	0.13	0.11	1.74	0.01	0.46	0.01	0.46	0.12	0.01	0.13	580.80	0.02	0.01
Excavation-Borrow, Turnouts, Staging	0.12	0.10	1.62	0.01	0.46	0.01	0.46	0.12	0.00	0.13	564.40	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.11	0.09	1.52	0.01	0.46	0.01	0.46	0.12	0.00	0.13	549.19	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.10	0.08	1.44	0.01	0.46	0.00	0.46	0.12	0.00	0.13	535.51	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.09	0.08	1.37	0.01	0.46	0.00	0.46	0.12	0.00	0.12	523.22	0.01	0.01
Bridges/Siphons	0.19	0.19	2.50	0.01	0.46	0.01	0.46	0.12	0.01	0.13	654.59	0.02	0.02
Bridges/Siphons	0.17	0.17	2.26	0.01	0.46	0.01	0.46	0.12	0.01	0.13	635.87	0.02	0.01
Bridges/Siphons	0.15	0.15	2.05	0.01	0.46	0.01	0.46	0.12	0.01	0.13	617.26	0.02	0.01
Bridges/Siphons	0.14	0.13	1.88	0.01	0.46	0.01	0.46	0.12	0.01	0.13	599.00	0.02	0.01
Bridges/Siphons	0.13	0.11	1.74	0.01	0.46	0.01	0.46	0.12	0.01	0.13	580.80	0.02	0.01
Bridges/Siphons	0.12	0.10	1.62	0.01	0.46	0.01	0.46	0.12	0.00	0.13	564.40	0.01	0.01
Bridges/Siphons	0.11	0.09	1.52	0.01	0.46	0.01	0.46	0.12	0.00	0.13	549.19	0.01	0.01
Bridges/Siphons	0.10	0.08	1.44	0.01	0.46	0.00	0.46	0.12	0.00	0.13	535.51	0.01	0.01
Bridges/Siphons	0.09	0.08	1.37	0.01	0.46	0.00	0.46	0.12	0.00	0.12	523.22	0.01	0.01
Bridges/Siphons	0.08	0.07	1.31	0.01	0.46	0.00	0.46	0.12	0.00	0.12	512.25	0.01	0.01
Check Structures	0.16	0.22	2.87	0.01	0.55	0.01	0.56	0.15	0.01	0.15	782.09	0.03	0.02
Check Structures	0.14	0.19	2.58	0.01	0.55	0.01	0.55	0.15	0.01	0.15	759.73	0.02	0.02
Utility relocation	0.05	0.07	0.96	0.00	0.18	0.00	0.19	0.05	0.00	0.05	260.70	0.01	0.01
Utility relocation	0.05	0.06	0.86	0.00	0.18	0.00	0.18	0.05	0.00	0.05	253.24	0.01	0.01
Utility relocation	0.04	0.05	0.78	0.00	0.18	0.00	0.18	0.05	0.00	0.05	245.83	0.01	0.00
Utility relocation	0.04	0.05	0.71	0.00	0.18	0.00	0.18	0.05	0.00	0.05	238.56	0.01	0.00
Utility relocation	0.03	0.04	0.66	0.00	0.18	0.00	0.18	0.05	0.00	0.05	231.31	0.01	0.00
Utility relocation	0.03	0.04	0.61	0.00	0.18	0.00	0.18	0.05	0.00	0.05	224.78	0.00	0.00
Utility relocation	0.03	0.03	0.57	0.00	0.18	0.00	0.18	0.05	0.00	0.05	218.72	0.00	0.00
Utility relocation	0.03	0.03	0.54	0.00	0.18	0.00	0.18	0.05	0.00	0.05	213.27	0.00	0.00
Well abandonment	0.04	0.07	0.93	0.00	0.18	0.00	0.19	0.05	0.00	0.05	260.13	0.01	0.01
Concrete Batch Plant	0.13	0.21	2.80	0.01	0.55	0.01	0.56	0.15	0.01	0.15	780.38	0.02	0.02
Concrete Batch Plant	0.11	0.18	2.51	0.01	0.55	0.01	0.55	0.15	0.01	0.15	758.07	0.02	0.02
Concrete Batch Plant	0.10	0.16	2.27	0.01	0.55	0.01	0.55	0.15	0.01	0.15	735.88	0.02	0.01
Concrete Batch Plant	0.09	0.14	2.08	0.01	0.55	0.01	0.55	0.15	0.01	0.15	714.11	0.02	0.01
Concrete Batch Plant	0.08	0.12	1.91	0.01	0.55	0.01	0.55	0.15	0.01	0.15	692.42	0.01	0.01
Concrete Batch Plant	0.07	0.11	1.77	0.01	0.55	0.01	0.55	0.15	0.01	0.15	672.86	0.01	0.01
Concrete Batch Plant	0.06	0.10	1.66	0.01	0.55	0.01	0.55	0.15	0.01	0.15	654.74	0.01	0.01
Concrete Batch Plant	0.05	0.09	1.56	0.01	0.55	0.01	0.55	0.15	0.01	0.15	638.43	0.01	0.01
Concrete Batch Plant	0.05	0.08	1.48	0.01	0.55	0.01	0.55	0.15	0.00	0.15	623.79	0.01	0.01
Concrete Batch Plant	0.05	0.07	1.41	0.01	0.55	0.00	0.55	0.15	0.00	0.15	610.71	0.01	0.01

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process f

3) Light duty vehicles do not have separate idling emissi

Light Duty Support Vehicle Emissions

	Annual Emissions (tons per year)												
Year	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
2021	0.04	0.06	0.76	0.00	0.14	0.00	0.15	0.04	0.00	0.04	206.66	0.01	0.00
2022	0.04	0.06	0.78	0.00	0.16	0.00	0.17	0.04	0.00	0.05	227.46	0.01	0.00
2023	0.02	0.02	0.32	0.00	0.07	0.00	0.07	0.02	0.00	0.02	97.06	0.00	0.00
2024	0.02	0.02	0.29	0.00	0.07	0.00	0.07	0.02	0.00	0.02	94.18	0.00	0.00
2025	0.02	0.02	0.27	0.00	0.07	0.00	0.07	0.02	0.00	0.02	91.32	0.00	0.00
2026	0.02	0.02	0.25	0.00	0.07	0.00	0.07	0.02	0.00	0.02	88.74	0.00	0.00
2027	0.01	0.01	0.23	0.00	0.07	0.00	0.07	0.02	0.00	0.02	86.35	0.00	0.00
2028	0.01	0.01	0.22	0.00	0.07	0.00	0.07	0.02	0.00	0.02	84.20	0.00	0.00
2029	0.02	0.02	0.40	0.00	0.14	0.00	0.14	0.04	0.00	0.04	158.89	0.00	0.00
2030	0.01	0.01	0.23	0.00	0.08	0.00	0.08	0.02	0.00	0.02	94.33	0.00	0.00

HHDT Support Vehicle Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End	Days per Construction Year									
						2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Segment 4 Canal Lining	Redi-mix concrete trucks (MP 102) (c	HHDT	147	5/1/2029	11/30/2029	0	0	0	0	0	0	0	0	147	0
Segment 4 Canal Lining	Water truck	HHDT	147	5/1/2029	11/30/2029	0	0	0	0	0	0	0	0	147	0
Segment 1 Canal Lining	Redi-mix concrete trucks (MP 102) (c	HHDT	189	12/1/2029	12/31/2029	0	0	0	0	0	0	0	0	21	0
Segment 1 Canal Lining	Water truck	HHDT	189	12/1/2029	12/31/2029	0	0	0	0	0	0	0	0	21	0
Segment 1 Canal Lining	Redi-mix concrete trucks (MP 102) (c	HHDT	189	1/1/2030	8/31/2030	0	0	0	0	0	0	0	0	0	168
Segment 1 Canal Lining	Water truck	HHDT	189	1/1/2030	8/31/2030	0	0	0	0	0	0	0	0	0	168
Canal Widening/Lining	Small Boom Truck	HHDT	504	12/1/2021	12/31/2021	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	Water Truck	HHDT	504	12/1/2021	12/31/2021	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	12/1/2021	12/31/2021	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	Small Boom Truck	HHDT	504	1/1/2022	12/31/2022	0	63	0	0	0	0	0	0	0	0
Canal Widening/Lining	Water Truck	HHDT	504	1/1/2022	12/31/2022	0	63	0	0	0	0	0	0	0	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	1/1/2022	12/31/2022	0	63	0	0	0	0	0	0	0	0
Canal Widening/Lining	Small Boom Truck	HHDT	504	1/1/2023	12/31/2023	0	0	63	0	0	0	0	0	0	0
Canal Widening/Lining	Water Truck	HHDT	504	1/1/2023	12/31/2023	0	0	63	0	0	0	0	0	0	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	1/1/2023	12/31/2023	0	0	63	0	0	0	0	0	0	0
Canal Widening/Lining	Small Boom Truck	HHDT	504	1/1/2024	12/31/2024	0	0	0	63	0	0	0	0	0	0
Canal Widening/Lining	Water Truck	HHDT	504	1/1/2024	12/31/2024	0	0	0	63	0	0	0	0	0	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	1/1/2024	12/31/2024	0	0	0	63	0	0	0	0	0	0
Canal Widening/Lining	Small Boom Truck	HHDT	504	1/1/2025	12/31/2025	0	0	0	0	63	0	0	0	0	0
Canal Widening/Lining	Water Truck	HHDT	504	1/1/2025	12/31/2025	0	0	0	0	63	0	0	0	0	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	1/1/2025	12/31/2025	0	0	0	0	63	0	0	0	0	0
Canal Widening/Lining	Small Boom Truck	HHDT	504	1/1/2026	12/31/2026	0	0	0	0	0	63	0	0	0	0
Canal Widening/Lining	Water Truck	HHDT	504	1/1/2026	12/31/2026	0	0	0	0	0	63	0	0	0	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	1/1/2026	12/31/2026	0	0	0	0	0	63	0	0	0	0
Canal Widening/Lining	Small Boom Truck	HHDT	504	1/1/2027	12/31/2027	0	0	0	0	0	0	63	0	0	0
Canal Widening/Lining	Water Truck	HHDT	504	1/1/2027	12/31/2027	0	0	0	0	0	0	63	0	0	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	1/1/2027	12/31/2027	0	0	0	0	0	0	63	0	0	0
Canal Widening/Lining	Small Boom Truck	HHDT	504	1/1/2028	12/31/2028	0	0	0	0	0	0	0	63	0	0
Canal Widening/Lining	Water Truck	HHDT	504	1/1/2028	12/31/2028	0	0	0	0	0	0	0	63	0	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	1/1/2028	12/31/2028	0	0	0	0	0	0	0	63	0	0
Canal Widening/Lining	Small Boom Truck	HHDT	504	1/1/2029	2/28/2029	0	0	0	0	0	0	0	0	42	0
Canal Widening/Lining	Water Truck	HHDT	504	1/1/2029	2/28/2029	0	0	0	0	0	0	0	0	42	0
Canal Widening/Lining	Belly-Dump Trucks with Pup Trailer	HHDT	504	1/1/2029	2/28/2029	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile	HHDT	672	11/1/2021	12/31/2021	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	11/1/2021	12/31/2021	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g	HHDT	672	11/1/2021	12/31/2021	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	11/1/2021	12/31/2021	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile	HHDT	672	1/1/2022	12/31/2022	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	1/1/2022	12/31/2022	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g	HHDT	672	1/1/2022	12/31/2022	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	1/1/2022	12/31/2022	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile	HHDT	672	1/1/2023	12/31/2023	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	1/1/2023	12/31/2023	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g	HHDT	672	1/1/2023	12/31/2023	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	1/1/2023	12/31/2023	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile	HHDT	672	1/1/2024	12/31/2024	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	1/1/2024	12/31/2024	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g	HHDT	672	1/1/2024	12/31/2024	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	1/1/2024	12/31/2024	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile	HHDT	672	1/1/2025	12/31/2025	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	1/1/2025	12/31/2025	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g	HHDT	672	1/1/2025	12/31/2025	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	1/1/2025	12/31/2025	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile	HHDT	672	1/1/2026	12/31/2026	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	1/1/2026	12/31/2026	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g	HHDT	672	1/1/2026	12/31/2026	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	1/1/2026	12/31/2026	0	0	0	0	0	84	0	0	0	0

HHDT Support Vehicle Emissions						Running Emission Factor (g/mi)												
Phase	Year	Quantity	Speed (mph)	Hours per day	Trip Length (miles)	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	2029	5	15	8	120	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Segment 4 Canal Lining	2029	1	15	4	60	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Segment 1 Canal Lining	2029	5	15	8	120	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Segment 1 Canal Lining	2029	1	15	4	60	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Segment 1 Canal Lining	2030	5	15	8	120	0.04	7.16	0.69	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1899.68	0.00	0.30
Segment 1 Canal Lining	2030	1	15	4	60	0.04	7.16	0.69	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1899.68	0.00	0.30
Canal Widening/Lining	2021	1	15	4	60	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Canal Widening/Lining	2021	2	15	4	60	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Canal Widening/Lining	2021	5	15	4	60	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Canal Widening/Lining	2022	1	15	4	60	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Canal Widening/Lining	2022	2	15	4	60	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Canal Widening/Lining	2022	5	15	4	60	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Canal Widening/Lining	2023	1	15	4	60	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Canal Widening/Lining	2023	2	15	4	60	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Canal Widening/Lining	2023	5	15	4	60	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Canal Widening/Lining	2024	1	15	4	60	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Canal Widening/Lining	2024	2	15	4	60	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Canal Widening/Lining	2024	5	15	4	60	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Canal Widening/Lining	2025	1	15	4	60	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Canal Widening/Lining	2025	2	15	4	60	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Canal Widening/Lining	2025	5	15	4	60	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Canal Widening/Lining	2026	1	15	4	60	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Canal Widening/Lining	2026	2	15	4	60	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Canal Widening/Lining	2026	5	15	4	60	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Canal Widening/Lining	2027	1	15	4	60	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Canal Widening/Lining	2027	2	15	4	60	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Canal Widening/Lining	2027	5	15	4	60	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Canal Widening/Lining	2028	1	15	4	60	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Canal Widening/Lining	2028	2	15	4	60	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Canal Widening/Lining	2028	5	15	4	60	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Canal Widening/Lining	2029	1	15	4	60	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Canal Widening/Lining	2029	2	15	4	60	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Canal Widening/Lining	2029	5	15	4	60	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Excavation-Borrow, Turnouts, Staging	2021	10	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Excavation-Borrow, Turnouts, Staging	2021	1	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Excavation-Borrow, Turnouts, Staging	2021	1	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Excavation-Borrow, Turnouts, Staging	2021	1	15	4	60	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Excavation-Borrow, Turnouts, Staging	2022	10	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Excavation-Borrow, Turnouts, Staging	2022	1	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Excavation-Borrow, Turnouts, Staging	2022	1	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Excavation-Borrow, Turnouts, Staging	2022	1	15	4	60	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Excavation-Borrow, Turnouts, Staging	2023	10	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Excavation-Borrow, Turnouts, Staging	2023	1	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Excavation-Borrow, Turnouts, Staging	2023	1	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Excavation-Borrow, Turnouts, Staging	2023	1	15	4	60	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Excavation-Borrow, Turnouts, Staging	2024	10	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Excavation-Borrow, Turnouts, Staging	2024	1	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Excavation-Borrow, Turnouts, Staging	2024	1	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Excavation-Borrow, Turnouts, Staging	2024	1	15	4	60	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Excavation-Borrow, Turnouts, Staging	2025	10	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Excavation-Borrow, Turnouts, Staging	2025	1	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Excavation-Borrow, Turnouts, Staging	2025	1	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Excavation-Borrow, Turnouts, Staging	2025	1	15	4	60	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Excavation-Borrow, Turnouts, Staging	2026	10	15	8	120	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Excavation-Borrow, Turnouts, Staging	2026	1	15	8	120	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Excavation-Borrow, Turnouts, Staging	2026	1	15	8	120	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Excavation-Borrow, Turnouts, Staging	2026	1	15	4	60	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33

HHDT Support Vehicle Emissions	Non-Running Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Segment 4 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Segment 1 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Segment 1 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Segment 1 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Segment 1 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HHDT Support Vehicle Emissions	Idling Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Segment 4 Canal Lining	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Segment 1 Canal Lining	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Segment 1 Canal Lining	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Segment 1 Canal Lining	0.49	5.88	7.29	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1057.62	0.02	0.17
Segment 1 Canal Lining	0.49	5.88	7.29	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1057.62	0.02	0.17
Canal Widening/Lining	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Canal Widening/Lining	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Canal Widening/Lining	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Canal Widening/Lining	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Canal Widening/Lining	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Canal Widening/Lining	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Canal Widening/Lining	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Canal Widening/Lining	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Canal Widening/Lining	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Canal Widening/Lining	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Canal Widening/Lining	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Canal Widening/Lining	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Canal Widening/Lining	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Canal Widening/Lining	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Canal Widening/Lining	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Canal Widening/Lining	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Canal Widening/Lining	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Canal Widening/Lining	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Canal Widening/Lining	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Canal Widening/Lining	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Canal Widening/Lining	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Canal Widening/Lining	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Canal Widening/Lining	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Canal Widening/Lining	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Canal Widening/Lining	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Canal Widening/Lining	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Canal Widening/Lining	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Excavation-Borrow, Turnouts, Staging	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Excavation-Borrow, Turnouts, Staging	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Excavation-Borrow, Turnouts, Staging	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Excavation-Borrow, Turnouts, Staging	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Excavation-Borrow, Turnouts, Staging	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Excavation-Borrow, Turnouts, Staging	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Excavation-Borrow, Turnouts, Staging	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Excavation-Borrow, Turnouts, Staging	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Excavation-Borrow, Turnouts, Staging	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Excavation-Borrow, Turnouts, Staging	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Excavation-Borrow, Turnouts, Staging	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Excavation-Borrow, Turnouts, Staging	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Excavation-Borrow, Turnouts, Staging	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18

HHDT Support Vehicle Emissions	Running+Non-Running+Idling Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.07	9.60	1.00	0.02	0.53	0.01	0.54	0.14	0.01	0.15	2586.79	0.00	0.41
Segment 4 Canal Lining	0.01	0.97	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	259.87	0.00	0.04
Segment 1 Canal Lining	0.07	9.60	1.00	0.02	0.53	0.01	0.54	0.14	0.01	0.15	2586.79	0.00	0.41
Segment 1 Canal Lining	0.01	0.97	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	259.87	0.00	0.04
Segment 1 Canal Lining	0.06	9.56	1.00	0.02	0.53	0.01	0.54	0.14	0.01	0.15	2524.46	0.00	0.40
Segment 1 Canal Lining	0.01	0.97	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	253.61	0.00	0.04
Canal Widening/Lining	0.05	1.15	0.19	0.00	0.05	0.01	0.06	0.01	0.01	0.02	320.99	0.00	0.05
Canal Widening/Lining	0.10	2.29	0.38	0.01	0.11	0.01	0.12	0.03	0.01	0.04	641.97	0.00	0.10
Canal Widening/Lining	0.24	5.73	0.96	0.02	0.26	0.03	0.30	0.07	0.03	0.10	1604.93	0.01	0.25
Canal Widening/Lining	0.03	1.07	0.16	0.00	0.05	0.00	0.06	0.01	0.00	0.02	312.73	0.00	0.05
Canal Widening/Lining	0.06	2.15	0.32	0.01	0.11	0.01	0.11	0.03	0.01	0.04	625.47	0.00	0.10
Canal Widening/Lining	0.15	5.36	0.79	0.01	0.26	0.02	0.28	0.07	0.02	0.09	1563.67	0.01	0.25
Canal Widening/Lining	0.01	0.98	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	298.83	0.00	0.05
Canal Widening/Lining	0.01	1.96	0.22	0.01	0.11	0.00	0.11	0.03	0.00	0.03	597.67	0.00	0.09
Canal Widening/Lining	0.04	4.89	0.55	0.01	0.26	0.01	0.27	0.07	0.01	0.08	1494.17	0.00	0.23
Canal Widening/Lining	0.01	0.99	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	293.44	0.00	0.05
Canal Widening/Lining	0.01	1.98	0.22	0.01	0.11	0.00	0.11	0.03	0.00	0.03	586.89	0.00	0.09
Canal Widening/Lining	0.04	4.94	0.55	0.01	0.26	0.01	0.27	0.07	0.01	0.08	1467.22	0.00	0.23
Canal Widening/Lining	0.01	0.99	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	287.17	0.00	0.05
Canal Widening/Lining	0.01	1.98	0.22	0.01	0.11	0.00	0.11	0.03	0.00	0.03	574.34	0.00	0.09
Canal Widening/Lining	0.04	4.94	0.55	0.01	0.26	0.01	0.27	0.07	0.01	0.08	1435.85	0.00	0.23
Canal Widening/Lining	0.01	0.99	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	280.78	0.00	0.04
Canal Widening/Lining	0.01	1.97	0.22	0.01	0.11	0.00	0.11	0.03	0.00	0.03	561.55	0.00	0.09
Canal Widening/Lining	0.04	4.93	0.55	0.01	0.26	0.01	0.27	0.07	0.01	0.08	1403.88	0.00	0.22
Canal Widening/Lining	0.01	0.98	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	274.06	0.00	0.04
Canal Widening/Lining	0.01	1.96	0.22	0.01	0.11	0.00	0.11	0.03	0.00	0.03	548.11	0.00	0.09
Canal Widening/Lining	0.04	4.91	0.55	0.01	0.26	0.01	0.27	0.07	0.01	0.08	1370.29	0.00	0.22
Canal Widening/Lining	0.01	0.98	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	267.38	0.00	0.04
Canal Widening/Lining	0.01	1.96	0.22	0.01	0.11	0.00	0.11	0.03	0.00	0.03	534.76	0.00	0.08
Canal Widening/Lining	0.04	4.89	0.54	0.01	0.26	0.01	0.27	0.07	0.01	0.08	1336.89	0.00	0.21
Canal Widening/Lining	0.01	0.97	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	259.87	0.00	0.04
Canal Widening/Lining	0.01	1.94	0.22	0.00	0.11	0.00	0.11	0.03	0.00	0.03	519.74	0.00	0.08
Canal Widening/Lining	0.04	4.84	0.54	0.01	0.26	0.01	0.27	0.07	0.01	0.08	1299.35	0.00	0.20
Excavation-Borrow, Turnouts, Staging	0.96	22.72	3.67	0.06	1.05	0.13	1.18	0.29	0.13	0.41	6391.84	0.04	1.00
Excavation-Borrow, Turnouts, Staging	0.10	2.27	0.37	0.01	0.11	0.01	0.12	0.03	0.01	0.04	639.18	0.00	0.10
Excavation-Borrow, Turnouts, Staging	0.10	2.27	0.37	0.01	0.11	0.01	0.12	0.03	0.01	0.04	639.18	0.00	0.10
Excavation-Borrow, Turnouts, Staging	0.05	1.15	0.19	0.00	0.05	0.01	0.06	0.01	0.01	0.02	320.99	0.00	0.05
Excavation-Borrow, Turnouts, Staging	0.58	21.27	2.99	0.06	1.05	0.07	1.12	0.29	0.06	0.35	6226.42	0.03	0.98
Excavation-Borrow, Turnouts, Staging	0.06	2.13	0.30	0.01	0.11	0.01	0.11	0.03	0.01	0.04	622.64	0.00	0.10
Excavation-Borrow, Turnouts, Staging	0.06	2.13	0.30	0.01	0.11	0.01	0.11	0.03	0.01	0.04	622.64	0.00	0.10
Excavation-Borrow, Turnouts, Staging	0.03	1.07	0.16	0.00	0.05	0.00	0.06	0.01	0.00	0.02	312.73	0.00	0.05
Excavation-Borrow, Turnouts, Staging	0.14	19.39	2.02	0.06	1.05	0.02	1.07	0.29	0.02	0.31	5949.39	0.01	0.94
Excavation-Borrow, Turnouts, Staging	0.01	1.94	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	594.94	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	1.94	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	594.94	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	0.98	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	298.83	0.00	0.05
Excavation-Borrow, Turnouts, Staging	0.14	19.57	2.04	0.06	1.05	0.02	1.07	0.29	0.02	0.31	5842.17	0.01	0.92
Excavation-Borrow, Turnouts, Staging	0.01	1.96	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	584.22	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	1.96	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	584.22	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	0.99	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	293.44	0.00	0.05
Excavation-Borrow, Turnouts, Staging	0.14	19.59	2.04	0.05	1.05	0.02	1.07	0.29	0.02	0.31	5717.27	0.01	0.90
Excavation-Borrow, Turnouts, Staging	0.01	1.96	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	571.73	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	1.96	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	571.73	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	0.99	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	287.17	0.00	0.05
Excavation-Borrow, Turnouts, Staging	0.13	19.54	2.03	0.05	1.05	0.02	1.07	0.29	0.02	0.31	5589.99	0.01	0.88
Excavation-Borrow, Turnouts, Staging	0.01	1.95	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	559.00	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	1.95	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	559.00	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	0.99	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	280.78	0.00	0.04

HHDT Support Vehicle Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End	Days per Construction Year									
						2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile:	HHDT	672	1/1/2027	12/31/2027	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	1/1/2027	12/31/2027	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g:	HHDT	672	1/1/2027	12/31/2027	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	1/1/2027	12/31/2027	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile:	HHDT	672	1/1/2028	12/31/2028	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	1/1/2028	12/31/2028	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g:	HHDT	672	1/1/2028	12/31/2028	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	1/1/2028	12/31/2028	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	Dump (hauling distance about 4 mile:	HHDT	672	1/1/2029	2/28/2029	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	Water Truck	HHDT	672	1/1/2029	2/28/2029	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	Water Pull (giant water truck 8,000 g:	HHDT	672	1/1/2029	2/28/2029	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	Flat Bed Truck	HHDT	672	1/1/2029	2/28/2029	0	0	0	0	0	0	0	0	42	0
Bridges/Siphons	Dump Truck	HHDT	945	9/1/2021	12/31/2021	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	9/1/2021	12/31/2021	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	Dump Truck	HHDT	945	9/1/2022	12/21/2022	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	9/1/2022	12/21/2022	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	Dump Truck	HHDT	945	9/1/2023	12/31/2023	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	9/1/2023	12/31/2023	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	Dump Truck	HHDT	945	9/1/2024	12/31/2024	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	9/1/2024	12/31/2024	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	Dump Truck	HHDT	945	9/1/2025	12/31/2025	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	9/1/2025	12/31/2025	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	Dump Truck	HHDT	945	9/1/2026	12/31/2026	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	9/1/2026	12/31/2026	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	Dump Truck	HHDT	945	9/1/2027	12/31/2027	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	9/1/2027	12/31/2027	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	Dump Truck	HHDT	945	9/1/2028	12/31/2028	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	9/1/2028	12/31/2028	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	Dump Truck	HHDT	945	4/1/2029	12/31/2029	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	4/1/2029	12/31/2029	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	Dump Truck	HHDT	945	1/1/2030	4/30/2030	0	0	0	0	0	0	0	0	0	84
Bridges/Siphons	Ready-mix Concrete Trucks	HHDT	945	1/1/2030	4/30/2030	0	0	0	0	0	0	0	0	0	84
Check Structures	Dump Truck	HHDT	84	1/1/2021	2/28/2021	42	0	0	0	0	0	0	0	0	0
Check Structures	Ready-mix Concrete Trucks	HHDT	168	3/1/2021	6/30/2021	84	0	0	0	0	0	0	0	0	0
Check Structures	Dump Truck	HHDT	84	1/1/2022	2/28/2022	0	42	0	0	0	0	0	0	0	0
Check Structures	Ready-mix Concrete Trucks	HHDT	168	3/1/2022	6/30/2022	0	84	0	0	0	0	0	0	0	0
Utility relocation	Boom truck	HHDT	168	12/1/2021	12/31/2021	21	0	0	0	0	0	0	0	0	0
Utility relocation	Flat Bed Truck	HHDT	168	12/1/2021	12/31/2021	21	0	0	0	0	0	0	0	0	0
Utility relocation	Boom truck	HHDT	168	12/1/2022	12/31/2022	0	21	0	0	0	0	0	0	0	0
Utility relocation	Flat Bed Truck	HHDT	168	12/1/2022	12/31/2022	0	21	0	0	0	0	0	0	0	0
Utility relocation	Boom truck	HHDT	168	12/1/2023	12/31/2023	0	0	21	0	0	0	0	0	0	0
Utility relocation	Flat Bed Truck	HHDT	168	12/1/2023	12/31/2023	0	0	21	0	0	0	0	0	0	0
Utility relocation	Boom truck	HHDT	168	12/1/2024	12/31/2024	0	0	0	21	0	0	0	0	0	0
Utility relocation	Flat Bed Truck	HHDT	168	12/1/2024	12/31/2024	0	0	0	21	0	0	0	0	0	0
Utility relocation	Boom truck	HHDT	168	12/1/2025	12/31/2025	0	0	0	0	21	0	0	0	0	0
Utility relocation	Flat Bed Truck	HHDT	168	12/1/2025	12/31/2025	0	0	0	0	21	0	0	0	0	0
Utility relocation	Boom truck	HHDT	168	12/1/2026	12/31/2026	0	0	0	0	0	21	0	0	0	0
Utility relocation	Flat Bed Truck	HHDT	168	12/1/2026	12/31/2026	0	0	0	0	0	21	0	0	0	0
Utility relocation	Boom truck	HHDT	168	12/1/2027	12/31/2027	0	0	0	0	0	0	21	0	0	0
Utility relocation	Flat Bed Truck	HHDT	168	12/1/2027	12/31/2027	0	0	0	0	0	0	21	0	0	0
Utility relocation	Boom truck	HHDT	168	12/1/2028	12/31/2028	0	0	0	0	0	0	0	21	0	0
Utility relocation	Flat Bed Truck	HHDT	168	12/1/2028	12/31/2028	0	0	0	0	0	0	0	21	0	0

HHDT Support Vehicle Emissions						Running Emission Factor (g/mi)												
Phase	Year	Quantity	Speed (mph)	Hours per day	Trip Length (miles)	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Excavation-Borrow, Turnouts, Staging	2027	10	15	8	120	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Excavation-Borrow, Turnouts, Staging	2027	1	15	8	120	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Excavation-Borrow, Turnouts, Staging	2027	1	15	8	120	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Excavation-Borrow, Turnouts, Staging	2027	1	15	4	60	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Excavation-Borrow, Turnouts, Staging	2028	10	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Excavation-Borrow, Turnouts, Staging	2028	1	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Excavation-Borrow, Turnouts, Staging	2028	1	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Excavation-Borrow, Turnouts, Staging	2028	1	15	4	60	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Excavation-Borrow, Turnouts, Staging	2029	10	15	8	120	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Excavation-Borrow, Turnouts, Staging	2029	1	15	8	120	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Excavation-Borrow, Turnouts, Staging	2029	1	15	8	120	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Excavation-Borrow, Turnouts, Staging	2029	1	15	4	60	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Bridges/Siphons	2021	3	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Bridges/Siphons	2021	12	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Bridges/Siphons	2022	3	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Bridges/Siphons	2022	12	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Bridges/Siphons	2023	3	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Bridges/Siphons	2023	12	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Bridges/Siphons	2024	3	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Bridges/Siphons	2024	12	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Bridges/Siphons	2025	3	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Bridges/Siphons	2025	12	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Bridges/Siphons	2026	3	15	8	120	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Bridges/Siphons	2026	12	15	8	120	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Bridges/Siphons	2027	3	15	8	120	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Bridges/Siphons	2027	12	15	8	120	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Bridges/Siphons	2028	3	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Bridges/Siphons	2028	12	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Bridges/Siphons	2029	3	15	8	120	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Bridges/Siphons	2029	12	15	8	120	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Bridges/Siphons	2030	3	15	8	120	0.04	7.16	0.69	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1899.68	0.00	0.30
Bridges/Siphons	2030	12	15	8	120	0.04	7.16	0.69	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1899.68	0.00	0.30
Check Structures	2021	1	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Check Structures	2021	4	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Check Structures	2022	1	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Check Structures	2022	4	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Utility relocation	2021	1	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Utility relocation	2021	1	15	2	30	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Utility relocation	2022	1	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Utility relocation	2022	1	15	2	30	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Utility relocation	2023	1	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Utility relocation	2023	1	15	2	30	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Utility relocation	2024	1	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Utility relocation	2024	1	15	2	30	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Utility relocation	2025	1	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Utility relocation	2025	1	15	2	30	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Utility relocation	2026	1	15	8	120	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Utility relocation	2026	1	15	2	30	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Utility relocation	2027	1	15	8	120	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Utility relocation	2027	1	15	2	30	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Utility relocation	2028	1	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Utility relocation	2028	1	15	2	30	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31

HHDT Support Vehicle Emissions	Non-Running Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HHDT Support Vehicle Emissions	Idling Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Excavation-Borrow, Turnouts, Staging	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Excavation-Borrow, Turnouts, Staging	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Excavation-Borrow, Turnouts, Staging	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Excavation-Borrow, Turnouts, Staging	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Excavation-Borrow, Turnouts, Staging	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Excavation-Borrow, Turnouts, Staging	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Excavation-Borrow, Turnouts, Staging	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Excavation-Borrow, Turnouts, Staging	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Excavation-Borrow, Turnouts, Staging	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Excavation-Borrow, Turnouts, Staging	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Excavation-Borrow, Turnouts, Staging	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Excavation-Borrow, Turnouts, Staging	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Bridges/Siphons	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Bridges/Siphons	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Bridges/Siphons	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Bridges/Siphons	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Bridges/Siphons	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Bridges/Siphons	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Bridges/Siphons	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Bridges/Siphons	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Bridges/Siphons	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Bridges/Siphons	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Bridges/Siphons	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Bridges/Siphons	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Bridges/Siphons	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Bridges/Siphons	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Bridges/Siphons	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Bridges/Siphons	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Bridges/Siphons	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Bridges/Siphons	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Bridges/Siphons	0.49	5.88	7.29	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1057.62	0.02	0.17
Bridges/Siphons	0.49	5.88	7.29	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1057.62	0.02	0.17
Check Structures	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Check Structures	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Check Structures	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Check Structures	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Utility relocation	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Utility relocation	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Utility relocation	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Utility relocation	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Utility relocation	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Utility relocation	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Utility relocation	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Utility relocation	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Utility relocation	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Utility relocation	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Utility relocation	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Utility relocation	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Utility relocation	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Utility relocation	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Utility relocation	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Utility relocation	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17

HHDT Support Vehicle Emissions	Running+Non-Running+Idling Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Excavation-Borrow, Turnouts, Staging	0.13	19.46	2.02	0.05	1.05	0.02	1.07	0.29	0.02	0.31	5456.21	0.01	0.86
Excavation-Borrow, Turnouts, Staging	0.01	1.95	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	545.62	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	1.95	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	545.62	0.00	0.09
Excavation-Borrow, Turnouts, Staging	0.01	0.98	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	274.06	0.00	0.04
Excavation-Borrow, Turnouts, Staging	0.13	19.38	2.02	0.05	1.05	0.02	1.07	0.29	0.02	0.31	5323.18	0.01	0.84
Excavation-Borrow, Turnouts, Staging	0.01	1.94	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	532.32	0.00	0.08
Excavation-Borrow, Turnouts, Staging	0.01	1.94	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	532.32	0.00	0.08
Excavation-Borrow, Turnouts, Staging	0.01	0.98	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	267.38	0.00	0.04
Excavation-Borrow, Turnouts, Staging	0.13	19.20	2.00	0.05	1.05	0.02	1.07	0.29	0.02	0.31	5173.58	0.01	0.81
Excavation-Borrow, Turnouts, Staging	0.01	1.92	0.20	0.00	0.11	0.00	0.11	0.03	0.00	0.03	517.36	0.00	0.08
Excavation-Borrow, Turnouts, Staging	0.01	1.92	0.20	0.00	0.11	0.00	0.11	0.03	0.00	0.03	517.36	0.00	0.08
Excavation-Borrow, Turnouts, Staging	0.01	0.97	0.11	0.00	0.05	0.00	0.05	0.01	0.00	0.02	259.87	0.00	0.04
Bridges/Siphons	0.29	6.82	1.10	0.02	0.32	0.04	0.35	0.09	0.04	0.12	1917.55	0.01	0.30
Bridges/Siphons	1.16	27.27	4.41	0.07	1.26	0.16	1.42	0.35	0.15	0.50	7670.21	0.05	1.21
Bridges/Siphons	0.17	6.38	0.90	0.02	0.32	0.02	0.33	0.09	0.02	0.11	1867.93	0.01	0.29
Bridges/Siphons	0.69	25.52	3.59	0.07	1.26	0.08	1.34	0.35	0.07	0.42	7471.71	0.03	1.17
Bridges/Siphons	0.04	5.82	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1784.82	0.00	0.28
Bridges/Siphons	0.16	23.27	2.43	0.07	1.26	0.03	1.29	0.35	0.03	0.37	7139.27	0.01	1.12
Bridges/Siphons	0.04	5.87	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1752.65	0.00	0.28
Bridges/Siphons	0.16	23.49	2.44	0.07	1.26	0.03	1.29	0.35	0.03	0.37	7010.60	0.01	1.10
Bridges/Siphons	0.04	5.88	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1715.18	0.00	0.27
Bridges/Siphons	0.16	23.51	2.44	0.06	1.26	0.03	1.29	0.35	0.03	0.37	6860.72	0.01	1.08
Bridges/Siphons	0.04	5.86	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1677.00	0.00	0.26
Bridges/Siphons	0.16	23.44	2.44	0.06	1.26	0.03	1.29	0.35	0.03	0.37	6707.99	0.01	1.05
Bridges/Siphons	0.04	5.84	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1636.86	0.00	0.26
Bridges/Siphons	0.16	23.35	2.43	0.06	1.26	0.03	1.29	0.35	0.03	0.37	6547.45	0.01	1.03
Bridges/Siphons	0.04	5.81	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1596.95	0.00	0.25
Bridges/Siphons	0.16	23.26	2.42	0.06	1.26	0.03	1.29	0.35	0.03	0.37	6387.82	0.01	1.00
Bridges/Siphons	0.04	5.76	0.60	0.01	0.32	0.01	0.32	0.09	0.01	0.09	1552.07	0.00	0.24
Bridges/Siphons	0.16	23.04	2.40	0.06	1.26	0.03	1.29	0.35	0.03	0.37	6208.30	0.01	0.98
Bridges/Siphons	0.04	5.74	0.60	0.01	0.32	0.01	0.32	0.09	0.01	0.09	1514.67	0.00	0.24
Bridges/Siphons	0.16	22.94	2.40	0.06	1.26	0.03	1.29	0.35	0.03	0.37	6058.69	0.01	0.95
Check Structures	0.10	2.27	0.37	0.01	0.11	0.01	0.12	0.03	0.01	0.04	639.18	0.00	0.10
Check Structures	0.39	9.09	1.47	0.02	0.42	0.05	0.47	0.12	0.05	0.17	2556.74	0.02	0.40
Check Structures	0.06	2.13	0.30	0.01	0.11	0.01	0.11	0.03	0.01	0.04	622.64	0.00	0.10
Check Structures	0.23	8.51	1.20	0.02	0.42	0.03	0.45	0.12	0.02	0.14	2490.57	0.01	0.39
Utility relocation	0.10	2.27	0.37	0.01	0.11	0.01	0.12	0.03	0.01	0.04	639.18	0.00	0.10
Utility relocation	0.02	0.58	0.10	0.00	0.03	0.00	0.03	0.01	0.00	0.01	161.89	0.00	0.03
Utility relocation	0.06	2.13	0.30	0.01	0.11	0.01	0.11	0.03	0.01	0.04	622.64	0.00	0.10
Utility relocation	0.02	0.55	0.09	0.00	0.03	0.00	0.03	0.01	0.00	0.01	157.78	0.00	0.02
Utility relocation	0.01	1.94	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	594.94	0.00	0.09
Utility relocation	0.00	0.50	0.06	0.00	0.03	0.00	0.03	0.01	0.00	0.01	150.78	0.00	0.02
Utility relocation	0.01	1.96	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	584.22	0.00	0.09
Utility relocation	0.00	0.50	0.06	0.00	0.03	0.00	0.03	0.01	0.00	0.01	148.06	0.00	0.02
Utility relocation	0.01	1.96	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	571.73	0.00	0.09
Utility relocation	0.00	0.50	0.06	0.00	0.03	0.00	0.03	0.01	0.00	0.01	144.89	0.00	0.02
Utility relocation	0.01	1.95	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	559.00	0.00	0.09
Utility relocation	0.00	0.50	0.06	0.00	0.03	0.00	0.03	0.01	0.00	0.01	141.66	0.00	0.02
Utility relocation	0.01	1.95	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	545.62	0.00	0.09
Utility relocation	0.00	0.50	0.06	0.00	0.03	0.00	0.03	0.01	0.00	0.01	138.28	0.00	0.02
Utility relocation	0.01	1.94	0.20	0.01	0.11	0.00	0.11	0.03	0.00	0.03	532.32	0.00	0.08
Utility relocation	0.00	0.50	0.06	0.00	0.03	0.00	0.03	0.01	0.00	0.01	134.91	0.00	0.02

HHDT Support Vehicle Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End	Days per Construction Year									
						2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Well abandonment	Ready-mix Concrete Trucks	HHDT	30	1/1/2021	1/31/2021	0	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2021	12/31/2021	252	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2022	12/31/2022	0	252	0	0	0	0	0	0	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2023	12/31/2023	0	0	63	0	0	0	0	0	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2024	12/31/2024	0	0	0	63	0	0	0	0	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2025	12/31/2025	0	0	0	0	63	0	0	0	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2026	12/31/2026	0	0	0	0	0	63	0	0	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2027	12/31/2027	0	0	0	0	0	0	63	0	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2028	12/31/2028	0	0	0	0	0	0	0	63	0	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	3/1/2029	12/31/2029	0	0	0	0	0	0	0	0	210	0
Concrete Batch Plant	Haulers (11 trips per day)	HHDT	1260	1/1/2030	8/31/2030	0	0	0	0	0	0	0	0	0	168

Notes:

1) Information provided from applicant
2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

HHDT Support Vehicle Emissions

						Running Emission Factor (g/mi)												
Phase	Year	Quantity	Speed (mph)	Hours per day	Trip Length (miles)	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	2021	1	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Concrete Batch Plant	2021	3	15	8	120	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Concrete Batch Plant	2022	3	15	8	120	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Concrete Batch Plant	2023	3	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Concrete Batch Plant	2024	3	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2198.23	0.00	0.35
Concrete Batch Plant	2025	3	15	8	120	0.05	7.33	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2151.25	0.00	0.34
Concrete Batch Plant	2026	3	15	8	120	0.05	7.32	0.71	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2103.37	0.00	0.33
Concrete Batch Plant	2027	3	15	8	120	0.05	7.29	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2053.02	0.00	0.32
Concrete Batch Plant	2028	3	15	8	120	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2002.95	0.00	0.31
Concrete Batch Plant	2029	3	15	8	120	0.05	7.19	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1946.61	0.00	0.31
Concrete Batch Plant	2030	3	15	8	120	0.04	7.16	0.69	0.02	0.40	0.01	0.41	0.11	0.01	0.12	1899.68	0.00	0.30

Notes:

1) Information provided from applicant
2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

HHDT Support Vehicle Emissions	Non-Running Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes:

1) Information provided from applicant
2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

HHDT Support Vehicle Emissions	Idling Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Concrete Batch Plant	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
Concrete Batch Plant	0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
Concrete Batch Plant	0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
Concrete Batch Plant	0.51	6.09	7.50	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1212.52	0.02	0.19
Concrete Batch Plant	0.51	6.04	7.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1185.24	0.02	0.19
Concrete Batch Plant	0.50	5.99	7.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1157.61	0.02	0.18
Concrete Batch Plant	0.50	5.96	7.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1131.19	0.02	0.18
Concrete Batch Plant	0.50	5.93	7.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1105.54	0.02	0.17
Concrete Batch Plant	0.50	5.90	7.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1080.34	0.02	0.17
Concrete Batch Plant	0.49	5.88	7.29	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1057.62	0.02	0.17

Notes:

1) Information provided from applicant
2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

HHDT Support Vehicle Emissions	Running+Non-Running+Idling Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	0.10	2.27	0.37	0.01	0.11	0.01	0.12	0.03	0.01	0.04	639.18	0.00	0.10
Concrete Batch Plant	0.29	6.82	1.10	0.02	0.32	0.04	0.35	0.09	0.04	0.12	1917.55	0.01	0.30
Concrete Batch Plant	0.17	6.38	0.90	0.02	0.32	0.02	0.33	0.09	0.02	0.11	1867.93	0.01	0.29
Concrete Batch Plant	0.04	5.82	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1784.82	0.00	0.28
Concrete Batch Plant	0.04	5.87	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1752.65	0.00	0.28
Concrete Batch Plant	0.04	5.88	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1715.18	0.00	0.27
Concrete Batch Plant	0.04	5.86	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1677.00	0.00	0.26
Concrete Batch Plant	0.04	5.84	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1636.86	0.00	0.26
Concrete Batch Plant	0.04	5.81	0.61	0.02	0.32	0.01	0.32	0.09	0.01	0.09	1596.95	0.00	0.25
Concrete Batch Plant	0.04	5.76	0.60	0.01	0.32	0.01	0.32	0.09	0.01	0.09	1552.07	0.00	0.24
Concrete Batch Plant	0.04	5.74	0.60	0.01	0.32	0.01	0.32	0.09	0.01	0.09	1514.67	0.00	0.24

Notes:

1) Information provided from applicant
2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

Offsite Light Duty Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End
Segment 4 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	147	5/1/2029	11/30/2029
Segment 1 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	189	12/1/2029	12/31/2029
Segment 1 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	189	1/1/2030	8/31/2030
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	12/1/2021	12/31/2021
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2022	12/31/2022
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2023	12/31/2023
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2024	12/31/2024
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2025	12/31/2025
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2026	12/31/2026
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2027	12/31/2027
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2028	12/31/2028
Canal Widening/Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	504	1/1/2029	2/28/2029
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	11/1/2021	12/31/2021
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2022	12/31/2022
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2023	12/31/2023
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2024	12/31/2024
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2025	12/31/2025
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2026	12/31/2026
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2027	12/31/2027
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2028	12/31/2028
Excavation-Borrow, Turnouts, Staging	Pickup trucks/commuter vehicles	LD Fleet Mix	672	1/1/2029	2/28/2029
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2021	12/31/2021
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2022	12/21/2022
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2023	12/31/2023
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2024	12/31/2024
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2025	12/31/2025
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2026	12/31/2026
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2027	12/31/2027
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	9/1/2028	12/31/2028
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	4/1/2029	12/31/2029
Bridges/Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	945	1/1/2030	4/30/2030
Check Structures	Pickup trucks/commuter vehicles	LD Fleet Mix	294	1/1/2021	7/31/2021
Check Structures	Pickup trucks/commuter vehicles	LD Fleet Mix	294	1/1/2022	7/31/2022
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2021	12/31/2021
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2022	12/31/2022
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2023	12/31/2023
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2024	12/31/2024
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2025	12/31/2025
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2026	12/31/2026
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2027	12/31/2027
Utility relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	168	12/1/2028	12/31/2028

Offsite Light Duty Emissions	Days per Construction Year									
Phase	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Segment 4 Canal Lining	0	0	0	0	0	0	0	0	147	0
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	21	0
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	0	168
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	63	0	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	63	0	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	63	0	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	63	0	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	63	0	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	63	0	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	63	0	0
Canal Widening/Lining	0	0	0	0	0	0	0	0	42	0
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84
Check Structures	147	0	0	0	0	0	0	0	0	0
Check Structures	0	147	0	0	0	0	0	0	0	0
Utility relocation	21	0	0	0	0	0	0	0	0	0
Utility relocation	0	21	0	0	0	0	0	0	0	0
Utility relocation	0	0	21	0	0	0	0	0	0	0
Utility relocation	0	0	0	21	0	0	0	0	0	0
Utility relocation	0	0	0	0	21	0	0	0	0	0
Utility relocation	0	0	0	0	0	21	0	0	0	0
Utility relocation	0	0	0	0	0	0	21	0	0	0
Utility relocation	0	0	0	0	0	0	0	21	0	0

Offsite Light Duty Emissions

						Running Emission Factor (g/mi)												
Phase	Year	Quantity[1]	Vehicle Speed (mph)	Hours per day	VMT	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	2029	60	15	2	16.8	0.01	0.03	0.55	0.00	0.34	0.00	0.35	0.09	0.00	0.09	248.14	0.00	0.00
Segment 1 Canal Lining	2029	60	15	2	16.8	0.01	0.03	0.55	0.00	0.34	0.00	0.35	0.09	0.00	0.09	248.14	0.00	0.00
Segment 1 Canal Lining	2030	60	15	2	16.8	0.01	0.03	0.52	0.00	0.34	0.00	0.35	0.09	0.00	0.09	242.97	0.00	0.00
Canal Widening/Lining	2021	60	15	2	16.8	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Canal Widening/Lining	2022	60	15	2	16.8	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Canal Widening/Lining	2023	60	15	2	16.8	0.01	0.07	0.83	0.00	0.34	0.00	0.35	0.09	0.00	0.09	292.37	0.00	0.01
Canal Widening/Lining	2024	60	15	2	16.8	0.01	0.06	0.76	0.00	0.34	0.00	0.35	0.09	0.00	0.09	283.74	0.00	0.01
Canal Widening/Lining	2025	60	15	2	16.8	0.01	0.05	0.70	0.00	0.34	0.00	0.35	0.09	0.00	0.09	275.15	0.00	0.00
Canal Widening/Lining	2026	60	15	2	16.8	0.01	0.05	0.65	0.00	0.34	0.00	0.35	0.09	0.00	0.09	267.54	0.00	0.00
Canal Widening/Lining	2027	60	15	2	16.8	0.01	0.04	0.61	0.00	0.34	0.00	0.35	0.09	0.00	0.09	260.37	0.00	0.00
Canal Widening/Lining	2028	60	15	2	16.8	0.01	0.04	0.58	0.00	0.34	0.00	0.35	0.09	0.00	0.09	253.93	0.00	0.00
Canal Widening/Lining	2029	60	15	2	16.8	0.01	0.03	0.55	0.00	0.34	0.00	0.35	0.09	0.00	0.09	248.14	0.00	0.00
Excavation-Borrow, Turnouts, Staging	2021	60	15	2	16.8	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Excavation-Borrow, Turnouts, Staging	2022	60	15	2	16.8	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Excavation-Borrow, Turnouts, Staging	2023	60	15	2	16.8	0.01	0.07	0.83	0.00	0.34	0.00	0.35	0.09	0.00	0.09	292.37	0.00	0.01
Excavation-Borrow, Turnouts, Staging	2024	60	15	2	16.8	0.01	0.06	0.76	0.00	0.34	0.00	0.35	0.09	0.00	0.09	283.74	0.00	0.01
Excavation-Borrow, Turnouts, Staging	2025	60	15	2	16.8	0.01	0.05	0.70	0.00	0.34	0.00	0.35	0.09	0.00	0.09	275.15	0.00	0.00
Excavation-Borrow, Turnouts, Staging	2026	60	15	2	16.8	0.01	0.05	0.65	0.00	0.34	0.00	0.35	0.09	0.00	0.09	267.54	0.00	0.00
Excavation-Borrow, Turnouts, Staging	2027	60	15	2	16.8	0.01	0.04	0.61	0.00	0.34	0.00	0.35	0.09	0.00	0.09	260.37	0.00	0.00
Excavation-Borrow, Turnouts, Staging	2028	60	15	2	16.8	0.01	0.04	0.58	0.00	0.34	0.00	0.35	0.09	0.00	0.09	253.93	0.00	0.00
Excavation-Borrow, Turnouts, Staging	2029	60	15	2	16.8	0.01	0.03	0.55	0.00	0.34	0.00	0.35	0.09	0.00	0.09	248.14	0.00	0.00
Bridges/Siphons	2021	60	15	2	16.8	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Bridges/Siphons	2022	60	15	2	16.8	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Bridges/Siphons	2023	60	15	2	16.8	0.01	0.07	0.83	0.00	0.34	0.00	0.35	0.09	0.00	0.09	292.37	0.00	0.01
Bridges/Siphons	2024	60	15	2	16.8	0.01	0.06	0.76	0.00	0.34	0.00	0.35	0.09	0.00	0.09	283.74	0.00	0.01
Bridges/Siphons	2025	60	15	2	16.8	0.01	0.05	0.70	0.00	0.34	0.00	0.35	0.09	0.00	0.09	275.15	0.00	0.00
Bridges/Siphons	2026	60	15	2	16.8	0.01	0.05	0.65	0.00	0.34	0.00	0.35	0.09	0.00	0.09	267.54	0.00	0.00
Bridges/Siphons	2027	60	15	2	16.8	0.01	0.04	0.61	0.00	0.34	0.00	0.35	0.09	0.00	0.09	260.37	0.00	0.00
Bridges/Siphons	2028	60	15	2	16.8	0.01	0.04	0.58	0.00	0.34	0.00	0.35	0.09	0.00	0.09	253.93	0.00	0.00
Bridges/Siphons	2029	60	15	2	16.8	0.01	0.03	0.55	0.00	0.34	0.00	0.35	0.09	0.00	0.09	248.14	0.00	0.00
Bridges/Siphons	2030	60	15	2	16.8	0.01	0.03	0.52	0.00	0.34	0.00	0.35	0.09	0.00	0.09	242.97	0.00	0.00
Check Structures	2021	60	15	4	16.8	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Check Structures	2022	60	15	4	16.8	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Utility relocation	2021	60	15	4	16.8	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Utility relocation	2022	60	15	4	16.8	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Utility relocation	2023	60	15	4	16.8	0.01	0.07	0.83	0.00	0.34	0.00	0.35	0.09	0.00	0.09	292.37	0.00	0.01
Utility relocation	2024	60	15	4	16.8	0.01	0.06	0.76	0.00	0.34	0.00	0.35	0.09	0.00	0.09	283.74	0.00	0.01
Utility relocation	2025	60	15	4	16.8	0.01	0.05	0.70	0.00	0.34	0.00	0.35	0.09	0.00	0.09	275.15	0.00	0.00
Utility relocation	2026	60	15	4	16.8	0.01	0.05	0.65	0.00	0.34	0.00	0.35	0.09	0.00	0.09	267.54	0.00	0.00
Utility relocation	2027	60	15	4	16.8	0.01	0.04	0.61	0.00	0.34	0.00	0.35	0.09	0.00	0.09	260.37	0.00	0.00
Utility relocation	2028	60	15	4	16.8	0.01	0.04	0.58	0.00	0.34	0.00	0.35	0.09	0.00	0.09	253.93	0.00	0.00

Offsite Light Duty Emissions	Non-Running Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Segment 1 Canal Lining	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Segment 1 Canal Lining	0.69	0.16	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.20	0.04	0.02
Canal Widening/Lining	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Canal Widening/Lining	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Canal Widening/Lining	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Canal Widening/Lining	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Canal Widening/Lining	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Canal Widening/Lining	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Canal Widening/Lining	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Canal Widening/Lining	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Canal Widening/Lining	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Excavation-Borrow, Turnouts, Staging	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Excavation-Borrow, Turnouts, Staging	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Excavation-Borrow, Turnouts, Staging	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Excavation-Borrow, Turnouts, Staging	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Excavation-Borrow, Turnouts, Staging	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Excavation-Borrow, Turnouts, Staging	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Excavation-Borrow, Turnouts, Staging	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Excavation-Borrow, Turnouts, Staging	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Excavation-Borrow, Turnouts, Staging	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Bridges/Siphons	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Bridges/Siphons	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Bridges/Siphons	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Bridges/Siphons	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Bridges/Siphons	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Bridges/Siphons	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Bridges/Siphons	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Bridges/Siphons	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Bridges/Siphons	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Bridges/Siphons	0.69	0.16	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.20	0.04	0.02
Check Structures	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Check Structures	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Utility relocation	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Utility relocation	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Utility relocation	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Utility relocation	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Utility relocation	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Utility relocation	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Utility relocation	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Utility relocation	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02

Offsite Light Duty Emissions	Running + Non-Running Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.11	0.10	1.48	0.01	0.77	0.00	0.77	0.20	0.00	0.21	558.22	0.01	0.01
Segment 1 Canal Lining	0.11	0.10	1.48	0.01	0.77	0.00	0.77	0.20	0.00	0.21	558.22	0.01	0.01
Segment 1 Canal Lining	0.10	0.09	1.41	0.01	0.77	0.00	0.77	0.20	0.00	0.21	546.58	0.01	0.01
Canal Widening/Lining	0.22	0.24	2.62	0.01	0.77	0.00	0.77	0.20	0.00	0.21	697.42	0.02	0.02
Canal Widening/Lining	0.20	0.21	2.38	0.01	0.77	0.00	0.77	0.20	0.00	0.21	677.53	0.02	0.02
Canal Widening/Lining	0.18	0.18	2.16	0.01	0.77	0.00	0.77	0.20	0.00	0.21	657.75	0.02	0.02
Canal Widening/Lining	0.16	0.16	2.00	0.01	0.77	0.00	0.77	0.20	0.00	0.21	638.34	0.01	0.02
Canal Widening/Lining	0.15	0.14	1.85	0.01	0.77	0.00	0.77	0.20	0.00	0.21	619.02	0.01	0.01
Canal Widening/Lining	0.14	0.13	1.74	0.01	0.77	0.00	0.77	0.20	0.00	0.21	601.89	0.01	0.01
Canal Widening/Lining	0.13	0.11	1.63	0.01	0.77	0.00	0.77	0.20	0.00	0.21	585.75	0.01	0.01
Canal Widening/Lining	0.12	0.10	1.55	0.01	0.77	0.00	0.77	0.20	0.00	0.21	571.24	0.01	0.01
Canal Widening/Lining	0.11	0.10	1.48	0.01	0.77	0.00	0.77	0.20	0.00	0.21	558.22	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.22	0.24	2.62	0.01	0.77	0.00	0.77	0.20	0.00	0.21	697.42	0.02	0.02
Excavation-Borrow, Turnouts, Staging	0.20	0.21	2.38	0.01	0.77	0.00	0.77	0.20	0.00	0.21	677.53	0.02	0.02
Excavation-Borrow, Turnouts, Staging	0.18	0.18	2.16	0.01	0.77	0.00	0.77	0.20	0.00	0.21	657.75	0.02	0.02
Excavation-Borrow, Turnouts, Staging	0.16	0.16	2.00	0.01	0.77	0.00	0.77	0.20	0.00	0.21	638.34	0.01	0.02
Excavation-Borrow, Turnouts, Staging	0.15	0.14	1.85	0.01	0.77	0.00	0.77	0.20	0.00	0.21	619.02	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.14	0.13	1.74	0.01	0.77	0.00	0.77	0.20	0.00	0.21	601.89	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.13	0.11	1.63	0.01	0.77	0.00	0.77	0.20	0.00	0.21	585.75	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.12	0.10	1.55	0.01	0.77	0.00	0.77	0.20	0.00	0.21	571.24	0.01	0.01
Excavation-Borrow, Turnouts, Staging	0.11	0.10	1.48	0.01	0.77	0.00	0.77	0.20	0.00	0.21	558.22	0.01	0.01
Bridges/Siphons	0.22	0.24	2.62	0.01	0.77	0.00	0.77	0.20	0.00	0.21	697.42	0.02	0.02
Bridges/Siphons	0.20	0.21	2.38	0.01	0.77	0.00	0.77	0.20	0.00	0.21	677.53	0.02	0.02
Bridges/Siphons	0.18	0.18	2.16	0.01	0.77	0.00	0.77	0.20	0.00	0.21	657.75	0.02	0.02
Bridges/Siphons	0.16	0.16	2.00	0.01	0.77	0.00	0.77	0.20	0.00	0.21	638.34	0.01	0.02
Bridges/Siphons	0.15	0.14	1.85	0.01	0.77	0.00	0.77	0.20	0.00	0.21	619.02	0.01	0.01
Bridges/Siphons	0.14	0.13	1.74	0.01	0.77	0.00	0.77	0.20	0.00	0.21	601.89	0.01	0.01
Bridges/Siphons	0.13	0.11	1.63	0.01	0.77	0.00	0.77	0.20	0.00	0.21	585.75	0.01	0.01
Bridges/Siphons	0.12	0.10	1.55	0.01	0.77	0.00	0.77	0.20	0.00	0.21	571.24	0.01	0.01
Bridges/Siphons	0.11	0.10	1.48	0.01	0.77	0.00	0.77	0.20	0.00	0.21	558.22	0.01	0.01
Bridges/Siphons	0.10	0.09	1.41	0.01	0.77	0.00	0.77	0.20	0.00	0.21	546.58	0.01	0.01
Check Structures	0.22	0.24	2.62	0.01	0.77	0.00	0.77	0.20	0.00	0.21	697.42	0.02	0.02
Check Structures	0.20	0.21	2.38	0.01	0.77	0.00	0.77	0.20	0.00	0.21	677.53	0.02	0.02
Utility relocation	0.22	0.24	2.62	0.01	0.77	0.00	0.77	0.20	0.00	0.21	697.42	0.02	0.02
Utility relocation	0.20	0.21	2.38	0.01	0.77	0.00	0.77	0.20	0.00	0.21	677.53	0.02	0.02
Utility relocation	0.18	0.18	2.16	0.01	0.77	0.00	0.77	0.20	0.00	0.21	657.75	0.02	0.02
Utility relocation	0.16	0.16	2.00	0.01	0.77	0.00	0.77	0.20	0.00	0.21	638.34	0.01	0.02
Utility relocation	0.15	0.14	1.85	0.01	0.77	0.00	0.77	0.20	0.00	0.21	619.02	0.01	0.01
Utility relocation	0.14	0.13	1.74	0.01	0.77	0.00	0.77	0.20	0.00	0.21	601.89	0.01	0.01
Utility relocation	0.13	0.11	1.63	0.01	0.77	0.00	0.77	0.20	0.00	0.21	585.75	0.01	0.01
Utility relocation	0.12	0.10	1.55	0.01	0.77	0.00	0.77	0.20	0.00	0.21	571.24	0.01	0.01

Offsite Light Duty Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End
Well abandonment	Pickup trucks/commuter vehicles	LD Fleet Mix	30	1/1/2021	1/31/2021
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2021	12/31/2021
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2022	12/31/2022
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2023	12/31/2023
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2024	12/31/2024
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2025	12/31/2025
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2026	12/31/2026
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2027	12/31/2027
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2028	12/31/2028
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	3/1/2029	12/31/2029
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	1260	1/1/2030	8/31/2030

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Offsite Light Duty Emissions	Days per Construction Year									
Phase	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Well abandonment	0	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	252	0	0	0	0	0	0	0	0	0
Concrete Batch Plant	0	252	0	0	0	0	0	0	0	0
Concrete Batch Plant	0	0	63	0	0	0	0	0	0	0
Concrete Batch Plant	0	0	0	63	0	0	0	0	0	0
Concrete Batch Plant	0	0	0	0	63	0	0	0	0	0
Concrete Batch Plant	0	0	0	0	0	63	0	0	0	0
Concrete Batch Plant	0	0	0	0	0	0	63	0	0	0
Concrete Batch Plant	0	0	0	0	0	0	0	63	0	0
Concrete Batch Plant	0	0	0	0	0	0	0	0	210	0
Concrete Batch Plant	0	0	0	0	0	0	0	0	0	168

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Offsite Light Duty Emissions

Phase	Year	Quantity[1]	Vehicle Speed (mph)	Hours per day	VMT	Running Emission Factor (g/mi) ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	2021	60	15	8	16.8	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Concrete Batch Plant	2021	60	15	8	16.8	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Concrete Batch Plant	2022	60	15	8	16.8	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Concrete Batch Plant	2023	60	15	8	16.8	0.01	0.07	0.83	0.00	0.34	0.00	0.35	0.09	0.00	0.09	292.37	0.00	0.01
Concrete Batch Plant	2024	60	15	8	16.8	0.01	0.06	0.76	0.00	0.34	0.00	0.35	0.09	0.00	0.09	283.74	0.00	0.01
Concrete Batch Plant	2025	60	15	8	16.8	0.01	0.05	0.70	0.00	0.34	0.00	0.35	0.09	0.00	0.09	275.15	0.00	0.00
Concrete Batch Plant	2026	60	15	8	16.8	0.01	0.05	0.65	0.00	0.34	0.00	0.35	0.09	0.00	0.09	267.54	0.00	0.00
Concrete Batch Plant	2027	60	15	8	16.8	0.01	0.04	0.61	0.00	0.34	0.00	0.35	0.09	0.00	0.09	260.37	0.00	0.00
Concrete Batch Plant	2028	60	15	8	16.8	0.01	0.04	0.58	0.00	0.34	0.00	0.35	0.09	0.00	0.09	253.93	0.00	0.00
Concrete Batch Plant	2029	60	15	8	16.8	0.01	0.03	0.55	0.00	0.34	0.00	0.35	0.09	0.00	0.09	248.14	0.00	0.00
Concrete Batch Plant	2030	60	15	8	16.8	0.01	0.03	0.52	0.00	0.34	0.00	0.35	0.09	0.00	0.09	242.97	0.00	0.00

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Offsite Light Duty Emissions	Non-Running Emission Factor (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Concrete Batch Plant	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
Concrete Batch Plant	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
Concrete Batch Plant	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
Concrete Batch Plant	1.02	0.22	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.04	0.06	0.03
Concrete Batch Plant	0.95	0.21	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.26	0.05	0.03
Concrete Batch Plant	0.89	0.19	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.59	0.05	0.03
Concrete Batch Plant	0.84	0.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.05	0.05	0.02
Concrete Batch Plant	0.78	0.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.65	0.04	0.02
Concrete Batch Plant	0.73	0.16	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.36	0.04	0.02
Concrete Batch Plant	0.69	0.16	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.20	0.04	0.02

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Offsite Light Duty Emissions	Running + Non-Running Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	0.22	0.24	2.62	0.01	0.77	0.00	0.77	0.20	0.00	0.21	697.42	0.02	0.02
Concrete Batch Plant	0.22	0.24	2.62	0.01	0.77	0.00	0.77	0.20	0.00	0.21	697.42	0.02	0.02
Concrete Batch Plant	0.20	0.21	2.38	0.01	0.77	0.00	0.77	0.20	0.00	0.21	677.53	0.02	0.02
Concrete Batch Plant	0.18	0.18	2.16	0.01	0.77	0.00	0.77	0.20	0.00	0.21	657.75	0.02	0.02
Concrete Batch Plant	0.16	0.16	2.00	0.01	0.77	0.00	0.77	0.20	0.00	0.21	638.34	0.01	0.02
Concrete Batch Plant	0.15	0.14	1.85	0.01	0.77	0.00	0.77	0.20	0.00	0.21	619.02	0.01	0.01
Concrete Batch Plant	0.14	0.13	1.74	0.01	0.77	0.00	0.77	0.20	0.00	0.21	601.89	0.01	0.01
Concrete Batch Plant	0.13	0.11	1.63	0.01	0.77	0.00	0.77	0.20	0.00	0.21	585.75	0.01	0.01
Concrete Batch Plant	0.12	0.10	1.55	0.01	0.77	0.00	0.77	0.20	0.00	0.21	571.24	0.01	0.01
Concrete Batch Plant	0.11	0.10	1.48	0.01	0.77	0.00	0.77	0.20	0.00	0.21	558.22	0.01	0.01
Concrete Batch Plant	0.10	0.09	1.41	0.01	0.77	0.00	0.77	0.20	0.00	0.21	546.58	0.01	0.01

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End
Segment 4 Canal Lining	Vendor	HHDT	147	5/1/2029	11/30/2029
Segment 1 Canal Lining	Vendor	HHDT	189	12/1/2029	12/31/2029
Segment 1 Canal Lining	Vendor	HHDT	189	1/1/2030	8/31/2030
Canal Widening/Lining	Vendor	HHDT	504	12/1/2021	12/31/2021
Canal Widening/Lining	Vendor	HHDT	504	1/1/2022	12/31/2022
Canal Widening/Lining	Vendor	HHDT	504	1/1/2023	12/31/2023
Canal Widening/Lining	Vendor	HHDT	504	1/1/2024	12/31/2024
Canal Widening/Lining	Vendor	HHDT	504	1/1/2025	12/31/2025
Canal Widening/Lining	Vendor	HHDT	504	1/1/2026	12/31/2026
Canal Widening/Lining	Vendor	HHDT	504	1/1/2027	12/31/2027
Canal Widening/Lining	Vendor	HHDT	504	1/1/2028	12/31/2028
Canal Widening/Lining	Vendor	HHDT	504	1/1/2029	2/28/2029
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	11/1/2021	12/31/2021
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	1/1/2022	12/31/2022
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	1/1/2023	12/31/2023
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	1/1/2024	12/31/2024
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	1/1/2025	12/31/2025
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	1/1/2026	12/31/2026
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	1/1/2027	12/31/2027
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	1/1/2028	12/31/2028
Excavation-Borrow, Turnouts, Staging	Soil Haul	HHDT	672	1/1/2029	2/28/2029
Bridges/Siphons	Vendor	HHDT	945	9/1/2021	12/31/2021
Bridges/Siphons	Vendor	HHDT	945	9/1/2022	12/21/2022
Bridges/Siphons	Vendor	HHDT	945	9/1/2023	12/31/2023
Bridges/Siphons	Vendor	HHDT	945	9/1/2024	12/31/2024
Bridges/Siphons	Vendor	HHDT	945	9/1/2025	12/31/2025
Bridges/Siphons	Vendor	HHDT	945	9/1/2026	12/31/2026
Bridges/Siphons	Vendor	HHDT	945	9/1/2027	12/31/2027
Bridges/Siphons	Vendor	HHDT	945	9/1/2028	12/31/2028
Bridges/Siphons	Vendor	HHDT	945	4/1/2029	12/31/2029
Bridges/Siphons	Vendor	HHDT	945	1/1/2030	4/30/2030
Check Structures	Vendor	HHDT	294	1/1/2021	7/31/2021
Check Structures	Vendor	HHDT	294	1/1/2022	7/31/2022
Utility relocation	Vendor	HHDT	168	12/1/2021	12/31/2021
Utility relocation	Vendor	HHDT	168	12/1/2022	12/31/2022
Utility relocation	Vendor	HHDT	168	12/1/2023	12/31/2023
Utility relocation	Vendor	HHDT	168	12/1/2024	12/31/2024
Utility relocation	Vendor	HHDT	168	12/1/2025	12/31/2025
Utility relocation	Vendor	HHDT	168	12/1/2026	12/31/2026
Utility relocation	Vendor	HHDT	168	12/1/2027	12/31/2027
Utility relocation	Vendor	HHDT	168	12/1/2028	12/31/2028

Haul (HHDT) Emissions	Days per Construction Year										
Phase	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Year
Segment 4 Canal Lining	0	0	0	0	0	0	0	0	147	0	2029
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	21	0	2029
Segment 1 Canal Lining	0	0	0	0	0	0	0	0	0	168	2030
Canal Widening/Lining	21	0	0	0	0	0	0	0	0	0	2021
Canal Widening/Lining	0	63	0	0	0	0	0	0	0	0	2022
Canal Widening/Lining	0	0	63	0	0	0	0	0	0	0	2023
Canal Widening/Lining	0	0	0	63	0	0	0	0	0	0	2024
Canal Widening/Lining	0	0	0	0	63	0	0	0	0	0	2025
Canal Widening/Lining	0	0	0	0	0	63	0	0	0	0	2026
Canal Widening/Lining	0	0	0	0	0	0	63	0	0	0	2027
Canal Widening/Lining	0	0	0	0	0	0	0	63	0	0	2028
Canal Widening/Lining	0	0	0	0	0	0	0	0	42	0	2029
Excavation-Borrow, Turnouts, Staging	42	0	0	0	0	0	0	0	0	0	2021
Excavation-Borrow, Turnouts, Staging	0	84	0	0	0	0	0	0	0	0	2022
Excavation-Borrow, Turnouts, Staging	0	0	84	0	0	0	0	0	0	0	2023
Excavation-Borrow, Turnouts, Staging	0	0	0	84	0	0	0	0	0	0	2024
Excavation-Borrow, Turnouts, Staging	0	0	0	0	84	0	0	0	0	0	2025
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	84	0	0	0	0	2026
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	84	0	0	0	2027
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	84	0	0	2028
Excavation-Borrow, Turnouts, Staging	0	0	0	0	0	0	0	0	42	0	2029
Bridges/Siphons	84	0	0	0	0	0	0	0	0	0	2021
Bridges/Siphons	0	84	0	0	0	0	0	0	0	0	2022
Bridges/Siphons	0	0	84	0	0	0	0	0	0	0	2023
Bridges/Siphons	0	0	0	84	0	0	0	0	0	0	2024
Bridges/Siphons	0	0	0	0	84	0	0	0	0	0	2025
Bridges/Siphons	0	0	0	0	0	84	0	0	0	0	2026
Bridges/Siphons	0	0	0	0	0	0	84	0	0	0	2027
Bridges/Siphons	0	0	0	0	0	0	0	84	0	0	2028
Bridges/Siphons	0	0	0	0	0	0	0	0	189	0	2029
Bridges/Siphons	0	0	0	0	0	0	0	0	0	84	2030
Check Structures	147	0	0	0	0	0	0	0	0	0	2021
Check Structures	0	147	0	0	0	0	0	0	0	0	2022
Utility relocation	21	0	0	0	0	0	0	0	0	0	2021
Utility relocation	0	21	0	0	0	0	0	0	0	0	2022
Utility relocation	0	0	21	0	0	0	0	0	0	0	2023
Utility relocation	0	0	0	21	0	0	0	0	0	0	2024
Utility relocation	0	0	0	0	21	0	0	0	0	0	2025
Utility relocation	0	0	0	0	0	21	0	0	0	0	2026
Utility relocation	0	0	0	0	0	0	21	0	0	0	2027
Utility relocation	0	0	0	0	0	0	0	21	0	0	2028

Haul (HHDT) Emissions

Phase	Vendor Trucks per day[1]	Vendor Trips per Day (In/Out)	Vendor Trip Length (miles)[3]	Total Excavation Quantity (CY)[1]	Truck Capacity (CY)[2]	Total Haul Trucks	Total Daily Haul Trucks	Total Daily Haul Truck Trips (In/Out)	Haul Trip Length (miles)[3]
Segment 4 Canal Lining	15	30	6.6	0	20	0	0	0	20
Segment 1 Canal Lining	15	30	6.6	0	20	0	0	0	20
Segment 1 Canal Lining	15	30	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Canal Widening/Lining	20	40	6.6	0	20	0	0	0	20
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Excavation-Borrow, Turnouts, Staging		0	6.6	6,000,000	20	300000	446	893	4.71
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Bridges/Siphons	20	40	6.6	0	20	0	0	0	20
Check Structures	12	24	6.6	0	20	0	0	0	20
Check Structures	12	24	6.6	0	20	0	0	0	20
Utility relocation	0	0	6.6	0	20	0	0	0	20
Utility relocation	5	10	6.6	0	20	0	0	0	20
Utility relocation	5	10	6.6	0	20	0	0	0	20
Utility relocation	5	10	6.6	0	20	0	0	0	20
Utility relocation	5	10	6.6	0	20	0	0	0	20
Utility relocation	5	10	6.6	0	20	0	0	0	20
Utility relocation	5	10	6.6	0	20	0	0	0	20
Utility relocation	5	10	6.6	0	20	0	0	0	20

Haul (HHDT) Emissions	Running Emission Factor (g/mi)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.02	2.25	0.21	0.01	0.40	0.03	0.42	0.11	0.02	0.13	1167.21	0.00	0.18
Segment 1 Canal Lining	0.02	2.25	0.21	0.01	0.40	0.03	0.42	0.11	0.02	0.13	1167.21	0.00	0.18
Segment 1 Canal Lining	0.02	2.24	0.21	0.01	0.40	0.03	0.42	0.11	0.02	0.13	1141.12	0.00	0.18
Canal Widening/Lining	0.11	3.55	0.43	0.01	0.40	0.06	0.46	0.11	0.06	0.17	1434.53	0.00	0.23
Canal Widening/Lining	0.06	3.00	0.29	0.01	0.40	0.03	0.43	0.11	0.03	0.14	1394.91	0.00	0.22
Canal Widening/Lining	0.02	2.38	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1337.08	0.00	0.21
Canal Widening/Lining	0.02	2.38	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1312.96	0.00	0.21
Canal Widening/Lining	0.02	2.36	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1285.21	0.00	0.20
Canal Widening/Lining	0.02	2.33	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1256.76	0.00	0.20
Canal Widening/Lining	0.02	2.30	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1226.41	0.00	0.19
Canal Widening/Lining	0.02	2.28	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1196.57	0.00	0.19
Canal Widening/Lining	0.02	2.25	0.21	0.01	0.40	0.03	0.42	0.11	0.02	0.13	1167.21	0.00	0.18
Excavation-Borrow, Turnouts, Staging	0.11	3.55	0.43	0.01	8.35	0.06	8.41	0.90	0.06	0.96	1434.53	0.00	0.23
Excavation-Borrow, Turnouts, Staging	0.06	3.00	0.29	0.01	8.35	0.03	8.39	0.90	0.03	0.93	1394.91	0.00	0.22
Excavation-Borrow, Turnouts, Staging	0.02	2.38	0.21	0.01	8.35	0.03	8.38	0.90	0.03	0.93	1337.08	0.00	0.21
Excavation-Borrow, Turnouts, Staging	0.02	2.38	0.21	0.01	8.35	0.03	8.38	0.90	0.03	0.93	1312.96	0.00	0.21
Excavation-Borrow, Turnouts, Staging	0.02	2.36	0.21	0.01	8.35	0.03	8.38	0.90	0.03	0.93	1285.21	0.00	0.20
Excavation-Borrow, Turnouts, Staging	0.02	2.33	0.21	0.01	8.35	0.03	8.38	0.90	0.03	0.92	1256.76	0.00	0.20
Excavation-Borrow, Turnouts, Staging	0.02	2.30	0.21	0.01	8.35	0.03	8.38	0.90	0.03	0.92	1226.41	0.00	0.19
Excavation-Borrow, Turnouts, Staging	0.02	2.28	0.21	0.01	8.35	0.03	8.38	0.90	0.03	0.92	1196.57	0.00	0.19
Excavation-Borrow, Turnouts, Staging	0.02	2.25	0.21	0.01	8.35	0.03	8.38	0.90	0.02	0.92	1167.21	0.00	0.18
Bridges/Siphons	0.11	3.55	0.43	0.01	0.40	0.06	0.46	0.11	0.06	0.17	1434.53	0.00	0.23
Bridges/Siphons	0.06	3.00	0.29	0.01	0.40	0.03	0.43	0.11	0.03	0.14	1394.91	0.00	0.22
Bridges/Siphons	0.02	2.38	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1337.08	0.00	0.21
Bridges/Siphons	0.02	2.38	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1312.96	0.00	0.21
Bridges/Siphons	0.02	2.36	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1285.21	0.00	0.20
Bridges/Siphons	0.02	2.33	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1256.76	0.00	0.20
Bridges/Siphons	0.02	2.30	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1226.41	0.00	0.19
Bridges/Siphons	0.02	2.28	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1196.57	0.00	0.19
Bridges/Siphons	0.02	2.25	0.21	0.01	0.40	0.03	0.42	0.11	0.02	0.13	1167.21	0.00	0.18
Bridges/Siphons	0.02	2.24	0.21	0.01	0.40	0.03	0.42	0.11	0.02	0.13	1141.12	0.00	0.18
Check Structures	0.11	3.55	0.43	0.01	0.40	0.06	0.46	0.11	0.06	0.17	1434.53	0.00	0.23
Check Structures	0.06	3.00	0.29	0.01	0.40	0.03	0.43	0.11	0.03	0.14	1394.91	0.00	0.22
Utility relocation	0.11	3.55	0.43	0.01	0.40	0.06	0.46	0.11	0.06	0.17	1434.53	0.00	0.23
Utility relocation	0.06	3.00	0.29	0.01	0.40	0.03	0.43	0.11	0.03	0.14	1394.91	0.00	0.22
Utility relocation	0.02	2.38	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1337.08	0.00	0.21
Utility relocation	0.02	2.38	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1312.96	0.00	0.21
Utility relocation	0.02	2.36	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1285.21	0.00	0.20
Utility relocation	0.02	2.33	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1256.76	0.00	0.20
Utility relocation	0.02	2.30	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1226.41	0.00	0.19
Utility relocation	0.02	2.28	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1196.57	0.00	0.19

Haul (HHDT) Emissions	Non-Running Emission Factors (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Segment 1 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Segment 1 Canal Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canal Widening/Lining	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-Borrow, Turnouts, Staging	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bridges/Siphons	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Haul (HHDT) Emissions	Idling Emission Factors (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	5.85	69.67	86.35	0.12	0.00	0.03	0.03	0.00	0.03	0.03	12755.52	0.27	2.00
Segment 1 Canal Lining	5.85	69.67	86.35	0.12	0.00	0.03	0.03	0.00	0.03	0.03	12755.52	0.27	2.00
Segment 1 Canal Lining	5.83	69.40	86.09	0.12	0.00	0.03	0.03	0.00	0.02	0.02	12484.59	0.27	1.96
Canal Widening/Lining	6.17	77.73	80.31	0.14	0.00	0.12	0.12	0.00	0.11	0.11	14905.81	0.29	2.34
Canal Widening/Lining	6.06	77.45	84.40	0.14	0.00	0.04	0.04	0.00	0.04	0.04	15092.84	0.28	2.37
Canal Widening/Lining	6.02	72.12	88.71	0.14	0.00	0.03	0.03	0.00	0.03	0.03	14530.49	0.28	2.28
Canal Widening/Lining	5.99	71.58	88.20	0.13	0.00	0.03	0.03	0.00	0.03	0.03	14249.72	0.28	2.24
Canal Widening/Lining	5.95	71.09	87.72	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13948.84	0.28	2.19
Canal Widening/Lining	5.92	70.65	87.29	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13642.46	0.27	2.14
Canal Widening/Lining	5.90	70.32	86.99	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13350.82	0.27	2.10
Canal Widening/Lining	5.88	70.06	86.75	0.12	0.00	0.03	0.03	0.00	0.03	0.03	13061.96	0.27	2.05
Canal Widening/Lining	5.85	69.67	86.35	0.12	0.00	0.03	0.03	0.00	0.03	0.03	12755.52	0.27	2.00
Excavation-Borrow, Turnouts, Staging	6.17	77.73	80.31	0.14	0.00	0.12	0.12	0.00	0.11	0.11	14905.81	0.29	2.34
Excavation-Borrow, Turnouts, Staging	6.06	77.45	84.40	0.14	0.00	0.04	0.04	0.00	0.04	0.04	15092.84	0.28	2.37
Excavation-Borrow, Turnouts, Staging	6.02	72.12	88.71	0.14	0.00	0.03	0.03	0.00	0.03	0.03	14530.49	0.28	2.28
Excavation-Borrow, Turnouts, Staging	5.99	71.58	88.20	0.13	0.00	0.03	0.03	0.00	0.03	0.03	14249.72	0.28	2.24
Excavation-Borrow, Turnouts, Staging	5.95	71.09	87.72	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13948.84	0.28	2.19
Excavation-Borrow, Turnouts, Staging	5.92	70.65	87.29	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13642.46	0.27	2.14
Excavation-Borrow, Turnouts, Staging	5.90	70.32	86.99	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13350.82	0.27	2.10
Excavation-Borrow, Turnouts, Staging	5.88	70.06	86.75	0.12	0.00	0.03	0.03	0.00	0.03	0.03	13061.96	0.27	2.05
Excavation-Borrow, Turnouts, Staging	5.85	69.67	86.35	0.12	0.00	0.03	0.03	0.00	0.03	0.03	12755.52	0.27	2.00
Bridges/Siphons	6.17	77.73	80.31	0.14	0.00	0.12	0.12	0.00	0.11	0.11	14905.81	0.29	2.34
Bridges/Siphons	6.06	77.45	84.40	0.14	0.00	0.04	0.04	0.00	0.04	0.04	15092.84	0.28	2.37
Bridges/Siphons	6.02	72.12	88.71	0.14	0.00	0.03	0.03	0.00	0.03	0.03	14530.49	0.28	2.28
Bridges/Siphons	5.99	71.58	88.20	0.13	0.00	0.03	0.03	0.00	0.03	0.03	14249.72	0.28	2.24
Bridges/Siphons	5.95	71.09	87.72	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13948.84	0.28	2.19
Bridges/Siphons	5.92	70.65	87.29	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13642.46	0.27	2.14
Bridges/Siphons	5.90	70.32	86.99	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13350.82	0.27	2.10
Bridges/Siphons	5.88	70.06	86.75	0.12	0.00	0.03	0.03	0.00	0.03	0.03	13061.96	0.27	2.05
Bridges/Siphons	5.85	69.67	86.35	0.12	0.00	0.03	0.03	0.00	0.03	0.03	12755.52	0.27	2.00
Bridges/Siphons	5.83	69.40	86.09	0.12	0.00	0.03	0.03	0.00	0.02	0.02	12484.59	0.27	1.96
Check Structures	6.17	77.73	80.31	0.14	0.00	0.12	0.12	0.00	0.11	0.11	14905.81	0.29	2.34
Check Structures	6.06	77.45	84.40	0.14	0.00	0.04	0.04	0.00	0.04	0.04	15092.84	0.28	2.37
Utility relocation	6.17	77.73	80.31	0.14	0.00	0.12	0.12	0.00	0.11	0.11	14905.81	0.29	2.34
Utility relocation	6.06	77.45	84.40	0.14	0.00	0.04	0.04	0.00	0.04	0.04	15092.84	0.28	2.37
Utility relocation	6.02	72.12	88.71	0.14	0.00	0.03	0.03	0.00	0.03	0.03	14530.49	0.28	2.28
Utility relocation	5.99	71.58	88.20	0.13	0.00	0.03	0.03	0.00	0.03	0.03	14249.72	0.28	2.24
Utility relocation	5.95	71.09	87.72	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13948.84	0.28	2.19
Utility relocation	5.92	70.65	87.29	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13642.46	0.27	2.14
Utility relocation	5.90	70.32	86.99	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13350.82	0.27	2.10
Utility relocation	5.88	70.06	86.75	0.12	0.00	0.03	0.03	0.00	0.03	0.03	13061.96	0.27	2.05

Haul (HHDT) Emissions	Running+Non-Running+Idling Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.40	5.74	5.80	0.01	0.17	0.01	0.19	0.05	0.01	0.06	1353.12	0.02	0.21
Segment 1 Canal Lining	0.40	5.74	5.80	0.01	0.17	0.01	0.19	0.05	0.01	0.06	1353.12	0.02	0.21
Segment 1 Canal Lining	0.40	5.72	5.78	0.01	0.17	0.01	0.19	0.05	0.01	0.06	1323.81	0.02	0.21
Canal Widening/Lining	0.61	9.09	7.33	0.02	0.23	0.04	0.28	0.06	0.04	0.11	2149.36	0.03	0.34
Canal Widening/Lining	0.57	8.76	7.61	0.02	0.23	0.02	0.25	0.06	0.02	0.09	2142.79	0.03	0.34
Canal Widening/Lining	0.54	7.95	7.94	0.02	0.23	0.02	0.25	0.06	0.02	0.08	2059.54	0.03	0.32
Canal Widening/Lining	0.54	7.90	7.90	0.02	0.23	0.02	0.25	0.06	0.02	0.08	2020.75	0.03	0.32
Canal Widening/Lining	0.54	7.84	7.86	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1978.06	0.02	0.31
Canal Widening/Lining	0.53	7.79	7.82	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1934.49	0.02	0.30
Canal Widening/Lining	0.53	7.74	7.79	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1891.10	0.02	0.30
Canal Widening/Lining	0.53	7.71	7.77	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1848.27	0.02	0.29
Canal Widening/Lining	0.53	7.66	7.74	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1804.15	0.02	0.28
Excavation-Borrow, Turnouts, Staging	13.14	189.59	162.10	0.40	77.41	0.78	78.19	8.34	0.74	9.08	42635.23	0.61	6.70
Excavation-Borrow, Turnouts, Staging	12.47	184.31	168.82	0.40	77.41	0.40	77.81	8.34	0.38	8.72	42636.22	0.58	6.70
Excavation-Borrow, Turnouts, Staging	12.06	168.51	176.54	0.39	77.41	0.30	77.71	8.34	0.29	8.63	40993.28	0.56	6.44
Excavation-Borrow, Turnouts, Staging	11.98	167.42	175.55	0.38	77.41	0.30	77.71	8.34	0.29	8.63	40217.14	0.56	6.32
Excavation-Borrow, Turnouts, Staging	11.92	166.27	174.62	0.37	77.41	0.30	77.71	8.34	0.29	8.63	39367.63	0.55	6.19
Excavation-Borrow, Turnouts, Staging	11.85	165.17	173.76	0.36	77.41	0.30	77.71	8.34	0.29	8.62	38500.92	0.55	6.05
Excavation-Borrow, Turnouts, Staging	11.81	164.26	173.16	0.36	77.41	0.30	77.71	8.34	0.29	8.62	37645.59	0.55	5.92
Excavation-Borrow, Turnouts, Staging	11.77	163.52	172.69	0.35	77.41	0.30	77.70	8.34	0.28	8.62	36800.47	0.55	5.78
Excavation-Borrow, Turnouts, Staging	11.72	162.52	171.90	0.34	77.41	0.29	77.70	8.34	0.28	8.62	35925.17	0.54	5.65
Bridges/Siphons	0.61	9.09	7.33	0.02	0.23	0.04	0.28	0.06	0.04	0.11	2149.36	0.03	0.34
Bridges/Siphons	0.57	8.76	7.61	0.02	0.23	0.02	0.25	0.06	0.02	0.09	2142.79	0.03	0.34
Bridges/Siphons	0.54	7.95	7.94	0.02	0.23	0.02	0.25	0.06	0.02	0.08	2059.54	0.03	0.32
Bridges/Siphons	0.54	7.90	7.90	0.02	0.23	0.02	0.25	0.06	0.02	0.08	2020.75	0.03	0.32
Bridges/Siphons	0.54	7.84	7.86	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1978.06	0.02	0.31
Bridges/Siphons	0.53	7.79	7.82	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1934.49	0.02	0.30
Bridges/Siphons	0.53	7.74	7.79	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1891.10	0.02	0.30
Bridges/Siphons	0.53	7.71	7.77	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1848.27	0.02	0.29
Bridges/Siphons	0.53	7.66	7.74	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1804.15	0.02	0.28
Bridges/Siphons	0.53	7.62	7.71	0.02	0.23	0.02	0.25	0.06	0.02	0.08	1765.08	0.02	0.28
Check Structures	0.36	5.45	4.40	0.01	0.14	0.03	0.17	0.04	0.03	0.06	1289.61	0.02	0.20
Check Structures	0.34	5.25	4.57	0.01	0.14	0.01	0.15	0.04	0.01	0.05	1285.68	0.02	0.20
Utility relocation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility relocation	0.14	2.19	1.90	0.01	0.06	0.01	0.06	0.02	0.01	0.02	535.70	0.01	0.08
Utility relocation	0.14	1.99	1.99	0.00	0.06	0.00	0.06	0.02	0.00	0.02	514.89	0.01	0.08
Utility relocation	0.14	1.97	1.97	0.00	0.06	0.00	0.06	0.02	0.00	0.02	505.19	0.01	0.08
Utility relocation	0.13	1.96	1.96	0.00	0.06	0.00	0.06	0.02	0.00	0.02	494.51	0.01	0.08
Utility relocation	0.13	1.95	1.95	0.00	0.06	0.00	0.06	0.02	0.00	0.02	483.62	0.01	0.08
Utility relocation	0.13	1.94	1.95	0.00	0.06	0.00	0.06	0.02	0.00	0.02	472.78	0.01	0.07
Utility relocation	0.13	1.93	1.94	0.00	0.06	0.00	0.06	0.02	0.00	0.02	462.07	0.01	0.07

Haul (HHDT) Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End
Well abandonment	Vendor	HHDT	30	1/1/2021	1/31/2021
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2021	12/31/2021
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2022	12/31/2022
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2023	12/31/2023
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2024	12/31/2024
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2025	12/31/2025
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2026	12/31/2026
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2027	12/31/2027
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2028	12/31/2028
Concrete Batch Plant	Vendor	HHDT	1260	3/1/2029	12/31/2029
Concrete Batch Plant	Vendor	HHDT	1260	1/1/2030	8/31/2030

Notes:
1) Information provided from applicant
2) CalEEMod User's Guide, Appendix A
3) CalEEMod default value for San Joaquin Valley Air Basin
4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants
5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions	Days per Construction Year										
Phase	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Year
Well abandonment	0	0	0	0	0	0	0	0	0	0	2021
Concrete Batch Plant	252	0	0	0	0	0	0	0	0	0	2021
Concrete Batch Plant	0	252	0	0	0	0	0	0	0	0	2022
Concrete Batch Plant	0	0	63	0	0	0	0	0	0	0	2023
Concrete Batch Plant	0	0	0	63	0	0	0	0	0	0	2024
Concrete Batch Plant	0	0	0	0	63	0	0	0	0	0	2025
Concrete Batch Plant	0	0	0	0	0	63	0	0	0	0	2026
Concrete Batch Plant	0	0	0	0	0	0	63	0	0	0	2027
Concrete Batch Plant	0	0	0	0	0	0	0	63	0	0	2028
Concrete Batch Plant	0	0	0	0	0	0	0	0	210	0	2029
Concrete Batch Plant	0	0	0	0	0	0	0	0	0	168	2030

Notes:
1) Information provided from applicant
2) CalEEMod User's Guide, Appendix A
3) CalEEMod default value for San Joaquin Valley Air Basin
4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants
5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions

Phase	Vendor Trucks per day[1]	Vendor Trips per Day (In/Out)	Vendor Trip Length (miles)[3]	Total Excavation Quantity (CY)[1]	Truck Capacity (CY)[2]	Total Haul Trucks	Total Daily Haul Trucks	Total Daily Haul Truck Trips (In/Out)	Haul Trip Length (miles)[3]
Well abandonment	3	6	6.6	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20
Concrete Batch Plant	0	0	20	0	20	0	0	0	20

Notes:
1) Information provided from applicant
2) CalEEMod User's Guide, Appendix A
3) CalEEMod default value for San Joaquin Valley Air Basin
4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants
5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions	Running Emission Factor (g/mi)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	0.11	3.55	0.43	0.01	0.40	0.06	0.46	0.11	0.06	0.17	1434.53	0.00	0.23
Concrete Batch Plant	0.11	3.55	0.43	0.01	0.40	0.06	0.46	0.11	0.06	0.17	1434.53	0.00	0.23
Concrete Batch Plant	0.06	3.00	0.29	0.01	0.40	0.03	0.43	0.11	0.03	0.14	1394.91	0.00	0.22
Concrete Batch Plant	0.02	2.38	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1337.08	0.00	0.21
Concrete Batch Plant	0.02	2.38	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1312.96	0.00	0.21
Concrete Batch Plant	0.02	2.36	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1285.21	0.00	0.20
Concrete Batch Plant	0.02	2.33	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1256.76	0.00	0.20
Concrete Batch Plant	0.02	2.30	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1226.41	0.00	0.19
Concrete Batch Plant	0.02	2.28	0.21	0.01	0.40	0.03	0.42	0.11	0.03	0.13	1196.57	0.00	0.19
Concrete Batch Plant	0.02	2.25	0.21	0.01	0.40	0.03	0.42	0.11	0.02	0.13	1167.21	0.00	0.18
Concrete Batch Plant	0.02	2.24	0.21	0.01	0.40	0.03	0.42	0.11	0.02	0.13	1141.12	0.00	0.18

Notes:
1) Information provided from applicant
2) CalEEMod User's Guide, Appendix A
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4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants
5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions	Non-Running Emission Factors (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
1) Information provided from applicant
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3) CalEEMod default value for San Joaquin Valley Air Basin
4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants
5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions	Idling Emission Factors (g/trip)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	6.17	77.73	80.31	0.14	0.00	0.12	0.12	0.00	0.11	0.11	14905.81	0.29	2.34
Concrete Batch Plant	6.17	77.73	80.31	0.14	0.00	0.12	0.12	0.00	0.11	0.11	14905.81	0.29	2.34
Concrete Batch Plant	6.06	77.45	84.40	0.14	0.00	0.04	0.04	0.00	0.04	0.04	15092.84	0.28	2.37
Concrete Batch Plant	6.02	72.12	88.71	0.14	0.00	0.03	0.03	0.00	0.03	0.03	14530.49	0.28	2.28
Concrete Batch Plant	5.99	71.58	88.20	0.13	0.00	0.03	0.03	0.00	0.03	0.03	14249.72	0.28	2.24
Concrete Batch Plant	5.95	71.09	87.72	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13948.84	0.28	2.19
Concrete Batch Plant	5.92	70.65	87.29	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13642.46	0.27	2.14
Concrete Batch Plant	5.90	70.32	86.99	0.13	0.00	0.03	0.03	0.00	0.03	0.03	13350.82	0.27	2.10
Concrete Batch Plant	5.88	70.06	86.75	0.12	0.00	0.03	0.03	0.00	0.03	0.03	13061.96	0.27	2.05
Concrete Batch Plant	5.85	69.67	86.35	0.12	0.00	0.03	0.03	0.00	0.03	0.03	12755.52	0.27	2.00
Concrete Batch Plant	5.83	69.40	86.09	0.12	0.00	0.03	0.03	0.00	0.02	0.02	12484.59	0.27	1.96

Notes:
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4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants
5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions	Running+Non-Running+Idling Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Well abandonment	0.09	1.36	1.10	0.00	0.03	0.01	0.04	0.01	0.01	0.02	322.40	0.00	0.05
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
1) Information provided from applicant
2) CalEEMod User's Guide, Appendix A
3) CalEEMod default value for San Joaquin Valley Air Basin
4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants
5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Concrete Batch Plant (300CY/day-110,500 CY Total)[1]

Quantity per day (CY)	Total Quantity (CY)[1]	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	Days per Construction Year 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Uncontrolled Emission Factor (lb PM10/CY Concrete Mix)	lb/day	Total Emissions (lbs)
300	110500	1260	1/1/2021	8/31/2030	2024	252	252	63	63	63	63	63	63	210	168	0.0595	17.85	6573.87

1) Information provided by applicant

Source Category	Unmitigated EF- lb pollutant/CY material
Aggregate delivery to ground storage	0.0031
Sand delivery to ground storage	0.0007
Aggregate transfer to conveyor	0.0031
Sand transfer to conveyor	0.0007
Aggregate transfer to elevated storage	0.0031
Sand transfer to elevated storage	0.0007
Cement delivery to silo	0.0001
Cement supplement delivery to silo	0.0002
Weigh hopper loading	0.0038
Central Mix Loading	0.0440
Total Emission Factor	**0.0595**

Source: USEPA, AP-42 Table 11.12-5

https://www3.epa.gov/ttn/chief/ap42/ch11/index.html

Haul Trip Lengths
CER Alternative

Canal Excavation to Embankment (Limited Haul 1500'): 2M CY
Excavation from Borrow (See attached pdf):

- 1.5 Mile Haul: 380k CY
- 2.5 Mile Haul: 1.6M CY
- 5.0 Mile Haul: 495K CY
- 6.0 Mile Haul: 60k CY

Mile Haul	Volume (CY)	Distribution	Weighted Trip Length
1.5	380,000	15%	2.9
2.5	1,600,000	63%	
5	495,000	20%	
6	60,000	2%	
	2,535,000		

CE Alternative
Canal Excavation: 1.6M CY
Excavation from Borrow:

- 1.5 Mile Haul: 500k CY
- 2.5 Mile Haul: 2.0M CY
- 5.0 Mile Haul: 2.5M CY
- 10.0 Mile Haul: 1M CY

Mile Haul	Volume (CY)	Distribution	Weighted Trip Length
1.5	500,000	8%	4.7
2.5	2,000,000	33%	
5	2,500,000	42%	
10	1,000,000	17%	
	6,000,000		

CANAL ENLARGEMENT AND REALIGNMENT (CER) ALTERNATIVE

Canal Enlargement and Realignment (CER) Construction GHG Emissions Summary

2021	6,890.92	0.80	0.35	7,007.05	
2022	8,618.83	0.94	0.45	8,765.26	
2023	1,168.74	0.06	0.12	1,202.64	
2024	539.05	0.03	0.06	554.77	
Total	**17,217.54**	**1.83**	**0.98**	**17,529.72**	350.59

1	28	265

2021

	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	4,050.48	0.76	0.00	4,071.86
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	434.80	0.01	0.01	437.92
HHDT Support	1,441.89	0.01	0.23	1,502.24
Offsite LD	272.38	0.01	0.01	274.73
Haul	691.37	0.00	0.11	720.30
Batch Plant	0.00	0.00	0.00	0.00
Total	**6,890.92**	**0.80**	**0.35**	**7,007.05**

2022

	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	5,051.16	0.89	0.00	5,076.10
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	521.82	0.02	0.01	525.53
HHDT Support	2,064.65	0.01	0.32	2,151.03
Offsite LD	289.84	0.01	0.01	292.30
Haul	691.37	0.00	0.11	720.30
Batch Plant	0.00	0.00	0.00	0.00
Total	**8,618.83**	**0.94**	**0.45**	**8,765.26**

2023	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	185.96	0.05	0.00	187.43
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	116.11	0.00	0.00	116.90
HHDT Support	729.62	0.00	0.11	760.13
Offsite LD	137.05	0.00	0.00	138.19
Haul	0.00	0.00	0.00	0.00
Batch Plant	0.00	0.00	0.00	0.00
Total	**1,168.74**	**0.06**	**0.12**	**1,202.64**

2024	MT per year			
Source	**CO2**	**CH4**	**N2O**	**CO_2e**
Offroad	82.49	0.02	0.00	83.13
Truck Loading	0.00	0.00	0.00	0.00
Bulldozing	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00
LD Support	51.87	0.00	0.00	52.22
HHDT Support	340.15	0.00	0.05	354.36
Offsite LD	64.54	0.00	0.00	65.07
Haul	0.00	0.00	0.00	0.00
Batch Plant	0.00	0.00	0.00	0.00
Total	**539.05**	**0.03**	**0.06**	**554.77**

1) GWP from IPCC AR5

Offroad Equipment Exhaust Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End
Segment 4 Canal Lining	Redi-mix concrete trucks (MP 102) (calculate ro	Cement and Mortar Mixers	147	11/1/2022	5/31/2023
Segment 4 Canal Lining	Compactor	Plate Compactors	147	11/1/2022	5/31/2023
Segment 4 Canal Lining	Small excavator	Tractors/Loaders/Backhoes	147	11/1/2022	5/31/2023
Segment 1 Canal Lining	Redi-mix concrete trucks (MP 102) (calculate ro	Cement and Mortar Mixers	189	9/1/2023	5/31/2024
Segment 1 Canal Lining	Compactor	Plate Compactors	189	9/1/2023	5/31/2024
Segment 1 Canal Lining	Small excavator	Tractors/Loaders/Backhoes	189	9/1/2023	5/31/2024
Excavation-New Canal, Turnouts, Staging, etc.	Dozers	Rubber Tired Dozers	336	5/1/2021	8/30/2022
Excavation-New Canal, Turnouts, Staging, etc.	Scrapers	Scrapers	336	5/1/2021	8/30/2022
Excavation-New Canal, Turnouts, Staging, etc.	Excavator	Excavators	336	5/1/2021	8/30/2022
Excavation-New Canal, Turnouts, Staging, etc.	Vibratory Compactor	Plate Compactors	336	5/1/2021	8/30/2022
Excavation-New Canal, Turnouts, Staging, etc.	Motor Grader	Graders	336	5/1/2021	8/30/2022
Excavation-New Canal, Turnouts, Staging, etc.	Gradall scraper	Scrapers	336	5/1/2021	8/30/2022
New Canal Lining	Canal Trimmer (grader)	Graders	168	3/1/2022	10/31/2022
New Canal Lining	Paving Train (paver)	Pavers	168	3/1/2022	10/31/2022
New Canal Lining	Concrete Curing Applicator (air compressor)	Air Compressors	168	3/1/2022	10/31/2022
New Canal Lining	Large Crane	Cranes	168	3/1/2022	10/31/2022
New Canal Lining	Small Boom Truck (crane)	Cranes	189	3/1/2022	11/30/2022
New Canal Lining	Motor Grader	Graders	63	3/1/2022	5/31/2022
New Canal Lining	Gradall scraper (scraper)	Scrapers	84	3/1/2022	6/30/2022
Siphons	Large Excavator Backhoe (tractors loaders back	Tractors/Loaders/Backhoes	399	5/1/2021	11/30/2022
Siphons	Frontend Loader	Rubber Tired Loaders	399	5/1/2021	11/30/2022
Siphons	Vibratory Compactor (plate compactor)	Plate Compactors	399	5/1/2021	11/30/2022
Siphons	Motor grader	Graders	399	5/1/2021	11/30/2022
Siphons	Small Bulldozer (rubber tired dozer)	Rubber Tired Dozers	399	5/1/2021	11/30/2022
Siphons	Asphalt paver (paver)	Pavers	60	5/1/2021	11/30/2022
Siphons	Asphalt paver (paver)	Pavers	27	6/1/2021	12/31/2021
Siphons	Asphalt paver (paver)	Pavers	33	2/1/2022	10/31/2022
Siphons	25 kVA Portable Generator	Generator Sets	399	5/1/2021	11/30/2022
Siphons	Dewatering Pump System	Pumps	399	5/1/2021	11/30/2022
Siphons	Ready-mix Concrete Trucks (cement and morto	Cement and Mortar Mixers	399	5/1/2021	11/30/2022
Siphons	Concrete Pump (pump)	Pumps	399	5/1/2021	11/30/2022
Siphons	Concrete Curing Applicator (air compressor)	Air Compressors	399	5/1/2021	11/30/2022
Siphons	Large Crane	Cranes	399	5/1/2021	11/30/2022
Check Structures	Large Excavator Backhoe	Tractors/Loaders/Backhoes	42	1/1/2021	2/28/2021
Check Structures	Frontend Loader	Rubber Tired Loaders	42	1/1/2021	2/28/2021
Check Structures	Vibratory Compactor (plate compactor)	Plate Compactors	21	7/1/2021	7/31/2021
Check Structures	Motor grader	Graders	21	7/1/2021	7/31/2021
Check Structures	Small Bulldozer	Rubber Tired Dozers	42	1/1/2021	7/31/2021
Check Structures	25 kVA Portable Generator	Generator Sets	42	1/1/2021	2/28/2021
Check Structures	Dewatering Pump System	Pumps	42	1/1/2021	2/28/2021
Check Structures	Ready-mix Concrete Trucks	Cement and Mortar Mixers	84	3/1/2021	6/30/2021
Check Structures	Concrete Pump	Pumps	84	3/1/2021	6/30/2021
Check Structures	Concrete Curing Applicator	Air Compressors	84	3/1/2021	6/30/2021
Check Structures	Large Crane	Cranes	84	3/1/2021	6/30/2021
Check Structures	Large Excavator Backhoe	Tractors/Loaders/Backhoes	42	1/1/2022	2/28/2022
Check Structures	Frontend Loader	Rubber Tired Loaders	42	1/1/2022	2/28/2022
Check Structures	Vibratory Compactor (plate compactor)	Plate Compactors	21	7/1/2022	7/31/2022
Check Structures	Motor grader	Graders	21	7/1/2022	7/31/2022
Check Structures	Small Bulldozer	Rubber Tired Dozers	42	1/1/2022	7/31/2022
Check Structures	25 kVA Portable Generator	Generator Sets	42	1/1/2022	2/28/2022
Check Structures	Dewatering Pump System	Pumps	42	1/1/2022	2/28/2022
Check Structures	Ready-mix Concrete Trucks	Cement and Mortar Mixers	84	3/1/2022	6/30/2022
Check Structures	Concrete Pump	Pumps	84	3/1/2022	6/30/2022
Check Structures	Concrete Curing Applicator	Air Compressors	84	3/1/2022	6/30/2022
Check Structures	Large Crane	Cranes	84	3/1/2022	6/30/2022
Utility Relocation	Boom truck (crane)	Cranes	84	1/1/2021	4/30/2021
Utility Relocation	Small crane	Cranes	84	1/1/2021	4/30/2021
Well Abandonement	Ready-mix Concrete Trucks	Cement and Mortar Mixers	42	1/1/2021	2/28/2021
Well Abandonement	Small excavator	Tractors/Loaders/Backhoes	42	1/1/2021	2/28/2021
Concrete Batch Plant	Loaders	Rubber Tired Loaders	861	1/1/2021	5/31/2024
Concrete Batch Plant	Mixers	Cement and Mortar Mixers	861	1/1/2021	5/31/2024

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and powered by generator sets

Offroad Equipment Exhaust Emissions		Days per Construction Year							
Phase	First Year of CSTN	2021	2022	2023	2024	Quantity[1]	Hours per Day[1]	HP[2]	LF[2]
Segment 4 Canal Lining	2022		42	105		5	8	9	0.56
Segment 4 Canal Lining	2022		42	105		1	4	8	0.43
Segment 4 Canal Lining	2022		42	105		1	4	97	0.37
Segment 1 Canal Lining	2023			84	105	5	8	9	0.56
Segment 1 Canal Lining	2023			84	105	1	4	8	0.43
Segment 1 Canal Lining	2023			84	105	1	4	97	0.37
Excavation-New Canal, Turnouts, Staging, etc.	2021	168	168			2	8	247	0.4
Excavation-New Canal, Turnouts, Staging, etc.	2021	168	168			10	8	367	0.48
Excavation-New Canal, Turnouts, Staging, etc.	2021	168	168			1	8	158	0.38
Excavation-New Canal, Turnouts, Staging, etc.	2021	168	168			2	8	8	0.43
Excavation-New Canal, Turnouts, Staging, etc.	2021	168	168			2	4	187	0.41
Excavation-New Canal, Turnouts, Staging, etc.	2021	168	168			1	4	367	0.48
New Canal Lining	2022		168			1	8	187	0.41
New Canal Lining	2022		168			1	8	130	0.42
New Canal Lining	2022		168			1	8	78	0.48
New Canal Lining	2022		168			1	2	231	0.29
New Canal Lining	2022		189			1	4	231	0.29
New Canal Lining	2022		63			2	4	187	0.41
New Canal Lining	2022		84			1	4	367	0.48
Siphons	2021	168	231			3	8	97	0.37
Siphons	2021	168	231			6	4	203	0.36
Siphons	2021	168	231			3	8	8	0.43
Siphons	2021	168	231			3	4	187	0.41
Siphons	2021	168	231			3	4	247	0.4
Siphons	2021	0	0			0	8	130	0.42
Siphons	2021	27				1	8	130	0.42
Siphons	2022		33			1	8	130	0.42
Siphons	2021	168	231			12	24	84	0.74
Siphons	2021	168	231			0	24	84	0.74
Siphons	2021	168	231			12	8	9	0.56
Siphons	2021	168	231			0	8	84	0.74
Siphons	2021	168	231			3	8	78	0.48
Siphons	2021	168	231			3	2	231	0.29
Check Structures	2021	42				1	8	97	0.37
Check Structures	2021	42				2	4	203	0.36
Check Structures	2021	21				1	8	8	0.43
Check Structures	2021	21				1	4	187	0.41
Check Structures	2021	42				1	4	247	0.4
Check Structures	2021	42				4	24	84	0.74
Check Structures	2021	42				0	24	84	0.74
Check Structures	2021	84				4	8	9	0.56
Check Structures	2021	84				0	8	84	0.74
Check Structures	2021	84				1	8	78	0.48
Check Structures	2021	84				1	2	231	0.29
Check Structures	2022		42			1	8	97	0.37
Check Structures	2022		42			2	4	203	0.36
Check Structures	2022		21			1	8	8	0.43
Check Structures	2022		21			1	4	187	0.41
Check Structures	2022		42			1	4	247	0.4
Check Structures	2022		42			4	24	84	0.74
Check Structures	2022		42			0	24	84	0.74
Check Structures	2022		84			4	8	9	0.56
Check Structures	2022		84			0	8	84	0.74
Check Structures	2022		84			1	8	78	0.48
Check Structures	2022		84			1	2	231	0.29
Utility Relocation	2021	84				1	8	231	0.29
Utility Relocation	2021	84				1	8	231	0.29
Well Abandonement	2021	42				1	8	9	0.56
Well Abandonement	2021	42				1	6	97	0.37
Concrete Batch Plant	2021	252	252	252	105	2	8	203	0.36
Concrete Batch Plant	2021	252	252	252	105	2	8	9	0.56

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and powered by generator sets

Offroad Equipment Exhaust Emissions	Emission Factor (g/bhp-hr)[2]												
Phase	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Segment 4 Canal Lining	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Segment 4 Canal Lining	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Segment 4 Canal Lining	0.26	2.65	3.54	0.01	0.00	0.14	0.14	0.00	0.13	0.13	475.90	0.15	0.00
Segment 1 Canal Lining	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Segment 1 Canal Lining	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Segment 1 Canal Lining	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.80	0.15	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.46	0.15	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.22	2.03	3.09	0.01	0.00	0.10	0.10	0.00	0.09	0.09	472.36	0.15	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.54	0.15	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.46	0.15	0.00
New Canal Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.24	0.15	0.00
New Canal Lining	0.22	2.18	2.99	0.01	0.00	0.10	0.10	0.00	0.10	0.10	472.76	0.15	0.00
New Canal Lining	0.41	2.84	3.66	0.01	0.00	0.17	0.17	0.00	0.17	0.17	568.30	0.04	0.00
New Canal Lining	0.32	3.54	1.60	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.98	0.15	0.00
New Canal Lining	0.32	3.54	1.60	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.98	0.15	0.00
New Canal Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.24	0.15	0.00
New Canal Lining	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	473.23	0.15	0.00
Siphons	0.30	3.00	3.57	0.01	0.00	0.18	0.18	0.00	0.16	0.16	475.36	0.15	0.00
Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.54	0.15	0.00
Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.80	0.15	0.00
Siphons	0.26	2.69	3.02	0.01	0.00	0.13	0.13	0.00	0.12	0.12	472.56	0.15	0.00
Siphons	0.26	2.69	3.02	0.01	0.00	0.13	0.13	0.00	0.12	0.12	472.56	0.15	0.00
Siphons	0.22	2.18	2.99	0.01	0.00	0.10	0.10	0.00	0.10	0.10	472.76	0.15	0.00
Siphons	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Siphons	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Siphons	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Siphons	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Siphons	0.44	3.08	3.67	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.04	0.00
Siphons	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.00
Check Structures	0.30	3.00	3.57	0.01	0.00	0.18	0.18	0.00	0.16	0.16	475.36	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Check Structures	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.54	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.80	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Check Structures	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Check Structures	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Check Structures	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.00
Check Structures	0.44	3.08	3.67	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.04	0.00
Check Structures	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.00
Check Structures	0.26	2.65	3.54	0.01	0.00	0.14	0.14	0.00	0.13	0.13	475.90	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.90	0.15	0.00
Check Structures	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.24	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.62	0.15	0.00
Check Structures	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Check Structures	0.32	2.71	3.40	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Check Structures	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Check Structures	0.32	2.71	3.40	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.00
Check Structures	0.41	2.84	3.66	0.01	0.00	0.17	0.17	0.00	0.17	0.17	568.30	0.04	0.00
Check Structures	0.32	3.54	1.60	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.98	0.15	0.00
Utility Relocation	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.00
Utility Relocation	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.00
Well Abandonement	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00
Well Abandonement	0.30	3.00	3.57	0.01	0.00	0.18	0.18	0.00	0.16	0.16	475.36	0.15	0.00
Concrete Batch Plant	0.06	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Concrete Batch Plant	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.00

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and powered by generator sets

Offroad Equipment Exhaust Emissions	Emissions (lb/day)												
Phase	ROG	NOX	CO	SO2	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Segment 4 Canal Lining	0.29	1.84	1.54	0.00	0.00	0.07	0.07	0.00	0.07	0.07	252.58	0.03	0.00
Segment 4 Canal Lining	0.02	0.13	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.24	0.00	0.00
Segment 4 Canal Lining	0.08	0.84	1.12	0.00	0.00	0.04	0.04	0.00	0.04	0.04	150.62	0.05	0.00
Segment 1 Canal Lining	0.29	1.84	1.54	0.00	0.00	0.07	0.07	0.00	0.07	0.07	252.58	0.03	0.00
Segment 1 Canal Lining	0.02	0.13	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.24	0.00	0.00
Segment 1 Canal Lining	0.08	0.77	1.12	0.00	0.00	0.04	0.04	0.00	0.03	0.03	150.79	0.05	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.21	0.91	12.89	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1654.68	0.54	0.00
Excavation-New Canal, Turnouts, Staging, etc.	1.86	8.08	114.95	0.16	0.00	0.25	0.25	0.00	0.25	0.25	14678.87	4.75	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.23	2.15	3.27	0.01	0.00	0.10	0.10	0.00	0.10	0.10	500.18	0.16	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.08	0.50	0.42	0.00	0.00	0.02	0.02	0.00	0.02	0.02	68.96	0.01	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	641.67	0.21	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	733.94	0.24	0.00
New Canal Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	641.27	0.21	0.00
New Canal Lining	0.21	2.10	2.88	0.00	0.00	0.10	0.10	0.00	0.09	0.09	455.25	0.15	0.00
New Canal Lining	0.27	1.88	2.42	0.00	0.00	0.11	0.11	0.00	0.11	0.11	375.26	0.02	0.00
New Canal Lining	0.09	1.05	0.47	0.00	0.00	0.04	0.04	0.00	0.04	0.04	139.71	0.05	0.00
New Canal Lining	0.19	2.09	0.95	0.00	0.00	0.09	0.09	0.00	0.08	0.08	279.41	0.09	0.00
New Canal Lining	0.08	0.35	5.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	641.27	0.21	0.00
New Canal Lining	0.09	0.40	5.75	0.01	0.00	0.01	0.01	0.00	0.01	0.01	735.13	0.24	0.00
Siphons	0.56	5.69	6.78	0.01	0.00	0.34	0.34	0.00	0.31	0.31	902.68	0.29	0.00
Siphons	0.23	1.01	14.31	0.02	0.00	0.03	0.03	0.00	0.03	0.03	1815.65	0.59	0.00
Siphons	0.12	0.75	0.63	0.00	0.00	0.03	0.03	0.00	0.03	0.03	103.44	0.01	0.00
Siphons	0.12	0.53	7.50	0.01	0.00	0.02	0.02	0.00	0.02	0.02	962.51	0.31	0.00
Siphons	0.16	0.68	9.67	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1241.01	0.40	0.00
Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Siphons	0.25	2.59	2.90	0.00	0.00	0.13	0.13	0.00	0.12	0.12	455.05	0.15	0.00
Siphons	0.21	2.10	2.88	0.00	0.00	0.10	0.10	0.00	0.09	0.09	455.25	0.15	0.00
Siphons	2.37	10.26	146.03	0.24	0.00	0.32	0.32	0.00	0.32	0.32	22428.87	1.14	0.00
Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Siphons	0.71	4.42	3.70	0.01	0.00	0.17	0.17	0.00	0.17	0.17	606.19	0.06	0.00
Siphons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Siphons	0.88	6.11	7.27	0.01	0.00	0.38	0.38	0.00	0.38	0.38	1125.77	0.08	0.00
Siphons	0.31	3.64	1.49	0.00	0.00	0.15	0.15	0.00	0.14	0.14	419.05	0.14	0.00
Check Structures	0.19	1.90	2.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	300.89	0.10	0.00
Check Structures	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.22	0.20	0.00
Check Structures	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Check Structures	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.84	0.10	0.00
Check Structures	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.67	0.13	0.00
Check Structures	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.38	0.00
Check Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.24	1.47	1.23	0.00	0.00	0.06	0.06	0.00	0.06	0.06	202.06	0.02	0.00
Check Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.29	2.04	2.42	0.00	0.00	0.13	0.13	0.00	0.13	0.13	375.26	0.03	0.00
Check Structures	0.10	1.21	0.50	0.00	0.00	0.05	0.05	0.00	0.05	0.05	139.68	0.05	0.00
Check Structures	0.16	1.68	2.24	0.00	0.00	0.09	0.09	0.00	0.08	0.08	301.23	0.10	0.00
Check Structures	0.08	0.34	4.77	0.01	0.00	0.01	0.01	0.00	0.01	0.01	605.65	0.20	0.00
Check Structures	0.04	0.25	0.21	0.00	0.00	0.01	0.01	0.00	0.01	0.01	34.48	0.00	0.00
Check Structures	0.04	0.18	2.50	0.00	0.00	0.01	0.01	0.00	0.01	0.01	320.63	0.10	0.00
Check Structures	0.05	0.23	3.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	413.51	0.13	0.00
Check Structures	0.79	3.42	48.68	0.08	0.00	0.11	0.11	0.00	0.11	0.11	7476.29	0.36	0.00
Check Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.24	1.47	1.23	0.00	0.00	0.06	0.06	0.00	0.06	0.06	202.06	0.02	0.00
Check Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Check Structures	0.27	1.88	2.42	0.00	0.00	0.11	0.11	0.00	0.11	0.11	375.26	0.02	0.00
Check Structures	0.09	1.05	0.47	0.00	0.00	0.04	0.04	0.00	0.04	0.04	139.71	0.05	0.00
Utility Relocation	0.41	4.85	1.98	0.01	0.00	0.20	0.20	0.00	0.18	0.18	558.73	0.18	0.00
Utility Relocation	0.41	4.85	1.98	0.01	0.00	0.20	0.20	0.00	0.18	0.18	558.73	0.18	0.00
Well Abandonement	0.06	0.37	0.31	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.52	0.01	0.00
Well Abandonement	0.14	1.42	1.70	0.00	0.00	0.08	0.08	0.00	0.08	0.08	225.67	0.07	0.00
Concrete Batch Plant	0.15	0.67	9.54	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1210.43	0.39	0.00
Concrete Batch Plant	0.12	0.74	0.62	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.03	0.01	0.00

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix D

3) Pumps would have electric motors and powered by generator sets

Truck Loading Emissions					Days per Construction Year							Emission Factor (lb/ton)[3]		Emissions (lb/day)[4]	
Phase	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	2021	2022	2023	2024	Excavation Quantity (CY)[1]	Conversion Factor (tons/CY)[2]	Excavation Quantity (tons)	PM10	PM2.5	PM10	PM2.5
Excavation-New Canal, Turnouts, Staging, etc.	336	5/1/2021	8/30/2022	2021	168	168	0	0	2535000	1.264	3204661.317	1.17E-04	1.76E-05	0.43	0.07

Notes:

1) Information provided from applicant

2) Value based on CalEEMod User's Guide, Appendix A

3) Emission factor based on CalEEMod Methodology

4) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Bulldozing Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	Days per Construction Year				Quantity[1]	Hours per Day[1]	Emission Factor (lb/hr)[2]		Emissions (lb/day)[3]	
							2021	2022	2023	2024			PM10	PM2.5	PM10	PM2.5
Excavation-New Canal, Turnouts, Staging, etc.	Dozers	Rubber Tired Dozers	336	5/1/2021	8/30/2022	2021	168	168	0	0	2	8	0.75	0.41	4.70	2.58
Siphons	Small Bulldozer (rubber tired dozer)	Rubber Tired Dozers	399	5/1/2021	11/30/2022	2021	168	231	0	0	3	4	0.75	0.41	3.52	1.94
Check Structures	Small Bulldozer	Rubber Tired Dozers	42	1/1/2021	7/31/2021	2021	42	0	0	0	1	4	0.75	0.41	1.17	0.65
Check Structures	Small Bulldozer	Rubber Tired Dozers	42	1/1/2022	7/31/2022	2022	0	42	0	0	1	4	0.75	0.41	1.17	0.65

Notes:

1) Information provided from applicant

2) Emission factor based on CalEEMod Methodology

3) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Grading Emissions

Phase	Equipment[1]	CalEEMod Equipment Type	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	Days per Construction Year 2021	2022	2023	2024	Acres/8hr-day per Equipment Type	Quantity[1]	Hours per Day[1]	Scaling Factor	Total Acres/8hr-day	VMT	Emission Factor (lb/VMT)[2] PM10	PM2.5	Emissions (lb/day)[3] PM10	PM2.5
Excavation-New Canal, Turnouts, Staging, etc.	Dozers	Rubber Tired Dozers	336	5/1/2021	8/30/2022	2021	168	168	0	0	0.5	2	8	8	1	0.6875	1.54	0.17	0.41	0.04
Excavation-New Canal, Turnouts, Staging, etc.	Scrapers	Scrapers	336	5/1/2021	8/30/2022	2021	168	168	0	0	1	10	8	8	10	6.875	1.54	0.17	4.14	0.45
Excavation-New Canal, Turnouts, Staging, etc.	Motor Grader	Graders	336	5/1/2021	8/30/2022	2021	168	168	0	0	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Excavation-New Canal, Turnouts, Staging, etc.	Gradall scraper	Scrapers	336	5/1/2021	8/30/2022	2021	168	168	0	0	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
New Canal Lining	Canal Trimmer (grader)	Graders	168	3/1/2022	10/31/2022	2022	0	168	0	0	0.5	1	8	8	0.5	0.34375	1.54	0.17	0.21	0.02
New Canal Lining	Motor Grader	Graders	63	3/1/2022	5/31/2022	2022	0	63	0	0	0.5	2	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
New Canal Lining	Gradall scraper (scraper)	Scrapers	84	3/1/2022	6/30/2022	2022	0	84	0	0	1	1	4	8	0.5	0.34375	1.54	0.17	0.21	0.02
Siphons	Motor grader	Graders	399	5/1/2021	11/30/2022	2021	168	231	0	0	0.5	3	4	8	0.75	0.515625	1.54	0.17	0.31	0.03
Siphons	Small Bulldozer (rubber tired dozer)	Rubber Tired Dozers	399	5/1/2021	11/30/2022	2021	168	231	0	0	0.5	3	4	8	0.75	0.515625	1.54	0.17	0.31	0.03
Check Structures	Motor grader	Graders	21	7/1/2021	7/31/2021	2021	21	0	0	0	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Check Structures	Small Bulldozer	Rubber Tired Dozers	42	1/1/2021	7/31/2021	2021	42	0	0	0	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Check Structures	Motor grader	Graders	21	7/1/2022	7/31/2022	2022	0	21	0	0	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01
Check Structures	Small Bulldozer	Rubber Tired Dozers	42	1/1/2022	7/31/2022	2022	0	42	0	0	0.5	1	4	8	0.25	0.171875	1.54	0.17	0.10	0.01

Equipment Type	Acres/8-hr day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Notes:
1) Information provided from applicant
2) Emission factor based on CalEEMod Methodology

3) Includes dust reduction measure consistent with CalEEMod methods. Not considered mitigation as it is an environmental commitment.

Light Duty Support Vehicle Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End	Days per Construction Year 2021	2022	2023	2024	Year	Quantity[1]	Vehicle Speed	Hours per day[1]	VMT
Segment 4 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	147	11/1/2022	5/31/2023		42	105		2022	10	15	2	30
Segment 1 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	189	9/1/2023	5/31/2024			84	105	2023	10	15	2	30
Excavation-New Canal, Turnouts, Staging, etc.	Pickup trucks/commuter vehicles	LD Fleet Mix	336	5/1/2021	8/31/2022	168	168			2021	40	15	2	30
New Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	84	3/1/2022	11/30/2022		84			2022	25	15	2	30
Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	399	5/1/2021	11/30/2022	168	231			2021	36	15	4	60
Check Structures	Pickup trucks/commuter vehicles	LD Fleet Mix	147	1/1/2021	7/31/2021	147				2021	12	15	4	60
Check Structures	Pickup trucks/commuter vehicles	LD Fleet Mix	147	1/1/2022	7/31/2022		147			2022	12	15	4	60
Utility Relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	84	1/1/2021	4/30/2021	84				2021	4	15	4	60
Well Abandonement	Pickup trucks/commuter vehicles	LD Fleet Mix	42	1/1/2021	2/28/2021	42				2021	2	15	8	120
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	861	1/1/2021	5/31/2024	252	252	252	105	2021	6	15	8	120

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Light Duty Support Vehicle Emissions	Running Emission Factor (g/mi)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Segment 1 Canal Lining	0.04	0.09	1.39	0.00	0.34	0.00	0.35	0.09	0.00	0.10	462.59	0.01	0.01
Excavation-New Canal, Turnouts, Staging, etc.	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
New Canal Lining	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Siphons	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Check Structures	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Check Structures	0.05	0.11	1.54	0.00	0.34	0.00	0.35	0.09	0.00	0.10	476.54	0.01	0.01
Utility Relocation	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Well Abandonement	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
Concrete Batch Plant	0.06	0.13	1.72	0.00	0.34	0.01	0.35	0.09	0.00	0.10	490.57	0.01	0.01
	Non-Running Emission Factor (g/trip)												
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Light Duty Support Vehicle Emissions	Running Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.03	0.07	1.02	0.00	0.23	0.00	0.23	0.06	0.00	0.06	315.17	0.01	0.01
Segment 1 Canal Lining	0.03	0.06	0.92	0.00	0.23	0.00	0.23	0.06	0.00	0.06	305.95	0.01	0.01
Excavation-New Canal, Turnouts, Staging, etc.	0.16	0.34	4.55	0.01	0.91	0.01	0.92	0.24	0.01	0.25	1297.79	0.04	0.03
New Canal Lining	0.08	0.18	2.55	0.01	0.57	0.01	0.58	0.15	0.01	0.16	787.93	0.02	0.02
Siphons	0.28	0.61	8.19	0.02	1.64	0.02	1.66	0.44	0.02	0.46	2336.03	0.07	0.05
Check Structures	0.09	0.20	2.73	0.01	0.55	0.01	0.55	0.15	0.01	0.15	778.68	0.02	0.02
Check Structures	0.08	0.17	2.45	0.01	0.55	0.01	0.55	0.15	0.01	0.15	756.42	0.02	0.01
Utility Relocation	0.03	0.07	0.91	0.00	0.18	0.00	0.18	0.05	0.00	0.05	259.56	0.01	0.01
Well Abandonement	0.03	0.07	0.91	0.00	0.18	0.00	0.18	0.05	0.00	0.05	259.56	0.01	0.01
Concrete Batch Plant	0.09	0.20	2.73	0.01	0.55	0.01	0.55	0.15	0.01	0.15	778.68	0.02	0.02
	Non-Running Emissions (lb/day)												
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
	0.05	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76	0.00	0.00
	0.05	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.68	0.00	0.00
	0.23	0.05	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.38	0.01	0.01
	0.13	0.03	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.91	0.01	0.00
	0.20	0.04	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.24	0.01	0.00
	0.07	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.41	0.00	0.00
	0.06	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.32	0.00	0.00
	0.02	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	0.00
	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00
	0.03	0.01	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.71	0.00	0.00

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

HHDT Support Vehicle Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End	Days per Construction Year 2021	2022	2023	2024	Year	Quantity[1]	Speed (mph)	Hours per day[1]	Trip Length (miles)
Segment 4 Canal Lining	Redi-mix concrete tru	HHDT	147	11/1/2022	5/31/2023		42	105		2022	5	15	8	120
Segment 4 Canal Lining	Water truck	HHDT	147	11/1/2022	5/31/2023		42	105		2022	1	15	4	60
Segment 1 Canal Lining	Redi-mix concrete tru	HHDT	189	9/1/2023	5/31/2024			84	105	2023	5	15	8	120
Segment 1 Canal Lining	Water truck	HHDT	189	9/1/2023	5/31/2024			84	105	2023	1	15	4	60
Excavation-New Canal, Turnouts, Staging, etc.	Dump (hauling distanc	HHDT	336	5/1/2021	8/31/2022	168	168			2021	10	15	8	0
Excavation-New Canal, Turnouts, Staging, etc.	Water Truck	HHDT	336	5/1/2021	8/31/2022	168	168			2021	2	15	8	120
Excavation-New Canal, Turnouts, Staging, etc.	Water Pull (giant wate	HHDT	336	5/1/2021	8/31/2022	168	168			2021	2	15	8	120
Excavation-New Canal, Turnouts, Staging, etc.	Flat Bed Truck	HHDT	336	5/1/2021	8/31/2022	168	168			2021	2	15	4	60
New Canal Lining	Water Truck	HHDT	168	3/1/2022	10/31/2022		168			2022	2	15	4	60
New Canal Lining	Belly-Dump Trucks wit	HHDT	168	3/1/2022	10/31/2022		168			2022	10	15	4	60
Siphons	Dump Truck	HHDT	399	5/1/2021	11/30/2022	168	231			2021	3	15	8	120
Siphons	Ready-mix Concrete T	HHDT	399	5/1/2021	11/30/2022	168	231			2021	12	15	8	120
Check Structures	Dump Truck	HHDT	42	1/1/2021	2/28/2021	42				2021	1	15	8	120
Check Structures	Dump Truck	HHDT	42	1/1/2022	2/28/2022		42			2022	1	15	8	120
Utility Relocation	Flat Bed Truck	HHDT	84	1/1/2021	4/30/2021	84				2021	1	15	2	30
Concrete Batch Plant	Haulers (22 trips per d	HHDT	861	1/1/2021	5/31/2024	252	252	252	105	2021	6	15	8	120

Notes:

1) Information provided from applicant
2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

HHDT Support Vehicle Emissions

Running Emission Factor (g/mi)

Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Segment 4 Canal Lining	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Segment 1 Canal Lining	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Segment 1 Canal Lining	0.05	7.26	0.70	0.02	0.40	0.01	0.41	0.11	0.01	0.12	2238.56	0.00	0.35
Excavation-New Canal, Turnouts, Staging, etc.	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Excavation-New Canal, Turnouts, Staging, etc.	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Excavation-New Canal, Turnouts, Staging, etc.	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Excavation-New Canal, Turnouts, Staging, etc.	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
New Canal Lining	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
New Canal Lining	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Siphons	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Siphons	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Check Structures	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Check Structures	0.21	7.97	1.07	0.02	0.40	0.02	0.42	0.11	0.02	0.13	2342.90	0.01	0.37
Utility Relocation	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38
Concrete Batch Plant	0.36	8.52	1.33	0.02	0.40	0.05	0.45	0.11	0.05	0.16	2405.58	0.02	0.38

Non-Running Emission Factor (g/trip)

ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Idling Emission Factor (g/trip)

ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
0.51	6.14	7.55	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1237.38	0.02	0.19
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
0.51	6.58	7.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1282.08	0.02	0.20
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20
0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

HHDT Support Vehicle Emissions

Running Emissions (lb/day)

Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Segment 4 Canal Lining	0.28	10.54	1.42	0.03	0.53	0.03	0.56	0.14	0.03	0.18	3099.08	0.01	0.49
Segment 4 Canal Lining	0.03	1.05	0.14	0.00	0.05	0.00	0.06	0.01	0.00	0.02	309.91	0.00	0.05
Segment 1 Canal Lining	0.06	9.60	0.93	0.03	0.53	0.01	0.54	0.14	0.01	0.16	2961.06	0.00	0.47
Segment 1 Canal Lining	0.01	0.96	0.09	0.00	0.05	0.00	0.05	0.01	0.00	0.02	296.11	0.00	0.05
Excavation-New Canal, Turnouts, Staging, etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation-New Canal, Turnouts, Staging, etc.	0.19	4.51	0.70	0.01	0.21	0.03	0.24	0.06	0.03	0.08	1272.79	0.01	0.20
Excavation-New Canal, Turnouts, Staging, etc.	0.19	4.51	0.70	0.01	0.21	0.03	0.24	0.06	0.03	0.08	1272.79	0.01	0.20
Excavation-New Canal, Turnouts, Staging, etc.	0.10	2.25	0.35	0.01	0.11	0.01	0.12	0.03	0.01	0.04	636.40	0.00	0.10
New Canal Lining	0.06	2.11	0.28	0.01	0.11	0.01	0.11	0.03	0.01	0.04	619.82	0.00	0.10
New Canal Lining	0.28	10.54	1.42	0.03	0.53	0.03	0.56	0.14	0.03	0.18	3099.08	0.01	0.49
Siphons	0.29	6.76	1.06	0.02	0.32	0.04	0.35	0.09	0.04	0.12	1909.19	0.01	0.30
Siphons	1.14	27.04	4.22	0.07	1.26	0.16	1.42	0.35	0.15	0.50	7636.77	0.05	1.20
Check Structures	0.10	2.25	0.35	0.01	0.11	0.01	0.12	0.03	0.01	0.04	636.40	0.00	0.10
Check Structures	0.06	2.11	0.28	0.01	0.11	0.01	0.11	0.03	0.01	0.04	619.82	0.00	0.10
Utility Relocation	0.02	0.56	0.09	0.00	0.03	0.00	0.03	0.01	0.00	0.01	159.10	0.00	0.03
Concrete Batch Plant	0.57	13.52	2.11	0.04	0.63	0.08	0.71	0.17	0.08	0.25	3818.38	0.03	0.60

Non-Running Emissions (lb/day)

ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Idling Emissions (lb/day)

ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
0.01	0.15	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.26	0.00	0.00
0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.65	0.00	0.00
0.01	0.14	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.28	0.00	0.00
0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.46	0.00	0.00
0.02	0.29	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.74	0.00	0.01
0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.15	0.00	0.00
0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.15	0.00	0.00
0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.15	0.00	0.00
0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.31	0.00	0.00
0.02	0.29	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.53	0.00	0.01
0.01	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.72	0.00	0.00
0.03	0.35	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.89	0.00	0.01
0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.57	0.00	0.00
0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.65	0.00	0.00
0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.57	0.00	0.00
0.01	0.17	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.44	0.00	0.01

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

Offsite Light Duty Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End	Days per Construction Year 2021	2022	2023	2024	Year	Quantity[1]	Trip Length (mi)
Segment 4 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	147	11/1/2022	5/31/2023		42	105		2022	60	16.8
Segment 1 Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	189	9/1/2023	5/31/2024			84	105	2023	60	16.8
Excavation-New Canal, Turnouts, Staging, etc.	Pickup trucks/commuter vehicles	LD Fleet Mix	336	5/1/2021	8/31/2022	168	168			2021	60	16.8
New Canal Lining	Pickup trucks/commuter vehicles	LD Fleet Mix	84	3/1/2022	11/30/2022		84			2022	60	16.8
Siphons	Pickup trucks/commuter vehicles	LD Fleet Mix	399	5/1/2021	11/30/2022	168	231			2021	60	16.8
Check Structures	Pickup trucks/commuter vehicles	LD Fleet Mix	147	1/1/2021	7/31/2021	147				2021	60	16.8
Check Structures	Pickup trucks/commuter vehicles	LD Fleet Mix	147	1/1/2022	7/31/2022		147			2022	60	16.8
Utility Relocation	Pickup trucks/commuter vehicles	LD Fleet Mix	84	1/1/2021	4/30/2021	84				2021	60	16.8
Well Abandonement	Pickup trucks/commuter vehicles	LD Fleet Mix	42	1/1/2021	2/28/2021	42				2021	60	16.8
Concrete Batch Plant	Pickup trucks/commuter vehicles	LD Fleet Mix	861	1/1/2021	5/31/2024	252	252	252	105	2021	60	16.8

Notes:

1) Information provided from applicant

2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Offsite Light Duty Emissions

Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
	Running Emission Factor (g/mi)												
Segment 4 Canal Lining	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Segment 1 Canal Lining	0.01	0.07	0.83	0.00	0.34	0.00	0.35	0.09	0.00	0.09	292.37	0.00	0.01
Excavation-New Canal, Turnouts, Staging, etc.	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
New Canal Lining	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Siphons	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Check Structures	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Check Structures	0.02	0.08	0.92	0.00	0.34	0.00	0.35	0.09	0.00	0.09	301.16	0.00	0.01
Utility Relocation	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Well Abandonement	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
Concrete Batch Plant	0.02	0.09	1.03	0.00	0.34	0.00	0.35	0.09	0.00	0.09	310.00	0.00	0.01
	Non-Running Emission Factor (g/trip)												
Notes:	**ROG**	**NOX**	**CO**	**SOX**	**PM10 Fugitive**	**PM10 Exhaust**	**Total PM10**	**PM2.5 Fugitive**	**PM2.5 Exhaust**	**Total PM2.5**	**CO2**	**CH4**	**N2O**
1) Information provided from applicant	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
	1.10	0.24	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.85	0.06	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.19	0.26	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.67	0.07	0.03
3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03
	1.29	0.28	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.52	0.07	0.03

Offsite Light Duty Emissions

Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
	Running Emissions (lb/day)												
Segment 4 Canal Lining	0.04	0.17	2.04	0.01	0.77	0.00	0.77	0.20	0.00	0.21	669.24	0.01	0.01
Segment 1 Canal Lining	0.03	0.15	1.84	0.01	0.77	0.00	0.77	0.20	0.00	0.21	649.70	0.01	0.01
Excavation-New Canal, Turnouts, Staging, etc.	0.05	0.20	2.28	0.01	0.77	0.00	0.77	0.20	0.00	0.21	688.89	0.01	0.02
New Canal Lining	0.04	0.17	2.04	0.01	0.77	0.00	0.77	0.20	0.00	0.21	669.24	0.01	0.01
Siphons	0.05	0.20	2.28	0.01	0.77	0.00	0.77	0.20	0.00	0.21	688.89	0.01	0.02
Check Structures	0.05	0.20	2.28	0.01	0.77	0.00	0.77	0.20	0.00	0.21	688.89	0.01	0.02
Check Structures	0.04	0.17	2.04	0.01	0.77	0.00	0.77	0.20	0.00	0.21	669.24	0.01	0.01
Utility Relocation	0.05	0.20	2.28	0.01	0.77	0.00	0.77	0.20	0.00	0.21	688.89	0.01	0.02
Well Abandonement	0.05	0.20	2.28	0.01	0.77	0.00	0.77	0.20	0.00	0.21	688.89	0.01	0.02
Concrete Batch Plant	0.05	0.20	2.28	0.01	0.77	0.00	0.77	0.20	0.00	0.21	688.89	0.01	0.02
	Non-Running Emissions (lb/day)												
Notes:	**ROG**	**NOX**	**CO**	**SOX**	**PM10 Fugitive**	**PM10 Exhaust**	**Total PM10**	**PM2.5 Fugitive**	**PM2.5 Exhaust**	**Total PM2.5**	**CO2**	**CH4**	**N2O**
1) Information provided from applicant	0.16	0.03	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.29	0.01	0.00
	0.15	0.03	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.05	0.01	0.00
	0.17	0.04	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.53	0.01	0.00
2) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants	0.16	0.03	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.29	0.01	0.00
	0.17	0.04	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.53	0.01	0.00
	0.17	0.04	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.53	0.01	0.00
	0.16	0.03	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.29	0.01	0.00
3) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors	0.17	0.04	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.53	0.01	0.00
	0.17	0.04	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.53	0.01	0.00
	0.17	0.04	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.53	0.01	0.00

Haul (HHDT) Emissions

Phase	Equipment[1]	EMFAC Vehicle Category	Total Workdays (21 days/month)[1]	Start	End	Days per Construction Year 2021	2022	2023	2024	Year	Total Excavation Quantity (CY)[1]	Truck Capacity (CY)[2]	Total Haul Trucks	Total Daily Haul Trucks	Total Daily Haul Truck Trips (In/Out)	Trip Length (miles)[3]
Excavation-New Canal, Turnouts, Staging, etc.	Dump (hauling	HHDT	336	5/1/2021	8/31/2022	168	168	0	0	2021	2,535,000	20	126750	377	754	2.92

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix A

3)Based on project specific information

4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions	Running Emission Factor (g/mi)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Excavation-New Canal, Turnouts, Staging, etc.	0.11	3.55	0.43	0.01	8.35	0.06	8.41	0.90	0.06	0.96	1434.53	0.00	0.23
	Non-Running Emission Factor (g/trip)												
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Idling Emission Factor (g/trip)												
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
	0.52	6.59	6.81	0.01	0.00	0.01	0.01	0.00	0.01	0.01	1264.15	0.02	0.20

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix A

3)Based on project specific information

4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Haul (HHDT) Emissions	Running Emissions (lb/day)												
Phase	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
Excavation-New Canal, Turnouts, Staging, etc.	0.52	17.25	2.11	0.07	40.58	0.29	40.87	4.37	0.27	4.64	6969.84	0.02	1.10
	Non-Running Emissions (lb/day)												
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
	0.00	3.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Idling Emissions (lb/day)												
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	Total PM10	PM2.5 Fugitive	PM2.5 Exhaust	Total PM2.5	CO2	CH4	N2O
	0.87	10.96	11.33	0.02	0.00	0.02	0.02	0.00	0.02	0.02	2102.64	0.04	0.33

Notes:

1) Information provided from applicant

2) CalEEMod User's Guide, Appendix A

3)Based on project specific information

4) Non-Running Emissions include evaporative process for ROG Runloss, Restloss, Diurnal, Hotsoak, and Starting exhaust emissions for all pollutants

5) Light duty vehicles do not have separate idling emission factors, EMFAC already accounts for idling emissions in running emission factors

Concrete Batch Plant (700CY/day-157,000CY Total)[1]

Quantity per day (CY)[1]	Total Quantity (CY)[1]	Total Workdays (21 days/month)[1]	Start	End	First Year of CSTN	Days per Construction Year 2021	2022	2023	2024	Uncontrolled Emission Factor (lb PM10/CY Concrete Mix)	lb/day	Total Emissions (lbs)
700	157000	861	1/1/2021	5/31/2024	2021	252	252	252	105	0.0595	41.64	9340.24

Source Category	Unmitigated EF- lb pollutant/CY material
Aggregate delivery to ground storage	0.0031
Sand delivery to ground storage	0.0007
Aggregate transfer to conveyor	0.0031
Sand transfer to conveyor	0.0007
Aggregate transfer to elevated storage	0.0031
Sand transfer to elevated storage	0.0007
Cement delivery to silo	0.0001
Cement supplement delivery to silo	0.0002
Weigh hopper loading	0.0038
Central Mix Loading	0.0440
Total Emission Factor	**0.0595**

Source: USEPA, AP-42 Table 11.12-5

1) Information provided from applicant

Haul Trip Lengths
CER Alternative

Canal Excavation to Embankment (Limited Haul 1500'): 2M CY
Excavation from Borrow (See attached pdf):

- 1.5 Mile Haul: 380k CY
- 2.5 Mile Haul: 1.6M CY
- 5.0 Mile Haul: 495K CY
- 6.0 Mile Haul: 60k CY

Mile Haul	Volume (CY)	Distribution	Weighted Trip Length
1.5	380,000	15%	2.9
2.5	1,600,000	63%	
5	495,000	20%	
6	60,000	2%	
	2,535,000		

CE Alternative
Canal Excavation: 1.6M CY
Excavation from Borrow:

- 1.5 Mile Haul: 500k CY
- 2.5 Mile Haul: 2.0M CY
- 5.0 Mile Haul: 2.5M CY
- 10.0 Mile Haul: 1M CY

Mile Haul	Volume (CY)	Distribution	Weighted Trip Length
1.5	500,000	8%	4.7
2.5	2,000,000	33%	
5	2,500,000	42%	
10	1,000,000	17%	
	6,000,000		