Appendix A – Scoping Report

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Memorandum

North Valley Regional Recycled Water Program

Subject:	**Scoping Report**
Prepared For:	Bureau of Reclamation, NVRRWP Staff
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Reviewed by:	Lyndel Melton, Carrie Del Boccio
Date:	June 23, 2014

This Scoping Report has been prepared to summarize the scoping process completed for the North Valley Regional Recycled Water Program (NVRRWP) Environmental Impact Report/Environmental Impact Statement (EIR/EIS). It provides an overview of the scoping process completed for both the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) and summarizes the comments received during scoping.

1 NEPA Scoping Process

On April 22, 2014 the NEPA Lead Agency, the U.S. Bureau of Reclamation (Reclamation), published a Notice of Intent (NOI) in the Federal Register. The Federal Register Notice established a 36-day public review period, which closed on May 28, 2014. During the public review period, NVRRWP held a local scoping meeting, which is described below. Reclamation received 6 comments during the NOI public review period.

2 CEQA Scoping Process

The City of Modesto, the CEQA Lead Agency, circulated a Notice of Preparation (NOP) on April 22, 2014. The NOP began a 30-day public review period, which ended May 22, 2014. The NOP was mailed to the State Clearinghouse, and was mailed directly to 13 responsible and trustee agencies. A postcard announcing the availability of the NOP and NOI and the date of the scoping meeting was mailed to 116 organizations and individuals. The NOP was also posted in the local newspaper, The Modesto Bee, and an announcement of the meeting was published in the "News & Notes" section of the newspaper.

The NVRRWP held a publicly advertised scoping meeting on May 13, 2014 at the location below:

3:00 pm – 7:00 pm
City of Modesto City Hall, Room 2001
1010 10th Street, Modesto

The scoping meeting was held in an open house format, and comment cards were provided for those attending the meeting to facilitate submittal of written comments. Because of the format of the meeting there were no verbal comments.

In addition to the scoping meeting, presentations were made to interested stakeholders, including the Farm Bureau and Almond Board of California, and Del Puerto Water District sent notices about the project to 200 landowners/customers. During the NOP review period, the City of Modesto received 13 comment submittals.

3 Comment Summary

A total of 15 comment submittals (letters, comment cards, phone calls and emails) were received (some comment submittals were sent to both Reclamation and the City of Modesto). Comment submittals are included in Attachment A. Table 1 provides a summary of the comments received during the public scoping process, and identifies the commenter, affiliation, date and comment format, summary of comments, and disposition of each comment.

Table 1: NOP/NOI Scoping Summary

Commenter, Affiliation	Format/Date	Comments	Response
State Water Resources Control Board	Letter, May 2, 2014	• Project is subject to Federal Endangered Species Act and must obtain Section 7 Clearance from U.S. Fish and Wildlife Service and/or National Marine Fisheries Service	• A Biological Assessment meeting requirements for Section 7 consultation will be prepared
		• Project must comply with Section 106 of National Historic Preservation Act and must identify an Area of Potential Effects (APE)	• A Cultural Resources Study meeting requirements for Section 106 consultation will be prepared
		• Project must comply with Clean Air Act	• Air quality conformity will be addressed in the Air Quality Section of the EIR/EIS
		• Project must comply with other federal requirements, including Coastal Zone Management Act, Protection of Wetlands, Farmland Protection Policy Act, Migratory Bird Treaty Act, Flood Plain Management Act and Wild and Scenic Rivers Act	• Compliance will be addressed in appropriate sections, including Biological Resources, Agriculture and Hydrology Sections of the EIR/EIS
		• Please provide a copy of draft CEQA document, and notice of any hearing or meetings held regarding project environmental review.	• A copy of the Draft EIR/EIS will be provided to the SWRCB
San Joaquin Valley Air Pollution Control District	Letter, May 6, 2014	• Identify and quantify criteria pollutant emissions during construction and operation	• This will be included in the Air Quality Section of the EIR/EIS
		• Discuss methodology, model assumptions, inputs and results, including project phasing, project design elements and mitigation, and evaluation of cumulative effects	• This will be included in the Air Quality Section of the EIR/EIS
		• Project is subject to District Rules including those regarding fugitive dust and internal combustion engines	• This will be addressed in the Air Quality Section of the EIR/EIS
		• Project is not subject to Indirect Source Review	• Agreed

Commenter, Affiliation	Format/Date	Comments	Response
Central Valley Regional Water Quality Control Board	Letter, May 9, 2014	• Projects that disturb one or more acre of soil are subject to Construction Storm Water General Permit	• This requirement will be identified in the Water Quality/Hydrology Section of the EIR/EIS.
		• New development must reduce pollutants and runoff flows using Best Management Practices in accordance with MS4 Permits	• This requirement will be identified in the Water Quality/Hydrology Section of the EIR/EIS.
		• Storm water discharges from industrial sites must comply with the Industrial Storm Water General Permit	• Facilities proposed as part of the NVRRWP are not expected to require coverage under the Industrial Storm Water General Permit.
		• If the project will involve discharge of fill material in navigable waters or wetlands, a Section 404 Permit would be needed	• If applicable, this requirement will be identified in the Biological Resources Section of the EIR/EIS.
		• If a 404 Permit is required then a Water Quality Certification would be needed from the Regional Board	• If applicable, this requirement will be identified in the Water Quality/Hydrology Section of the EIR/EIS.
		• If there is fill in a non-jurisdictional water of the state the project would require a Waste Discharge Requirements (WDR)	• If applicable, this requirement will be identified in the Biological Resources Section of the EIR/EIS.
		• Discharge of water from construction dewatering would need to be covered under the Low or Limited Threat General NPDES Permit	• This requirement will be identified in the Water Quality/Hydrology Section of the EIR/EIS.
U.S. Army Corps of Engineers	Letter, May 9, 2014	• Prepare wetland delineation to identify any areas within Corps jurisdiction in the project area	• Results of a preliminary wetlands delineation will be included in the EIR/EIS
		• Range of alternatives considered should include alternatives that avoid impacts to wetlands or other waters of the U.S.	• Project will be designed to avoid fill of wetlands to the extent possible
		• If effects on wetlands or water of the U.S. cannot be avoided, mitigation plans should compensate for loss	• Mitigation will be provided for any unavoidable impacts caused by the project.

Commenter, Affiliation	Format/Date	Comments	Response
Stanislaus County Planning & Community Development Department	Comment Card, May 13, 2014	• Define long-term • Will the project affect current groundwater recharge flows and patterns? • Is there a financial report that estimates project costs and cost impacts to rate payers?	• Del Puerto Water District (DPWD) hopes to enter into a 40-year contract with Reclamation to convey recycled water through the Delta-Mendota Canal. • This will be evaluated in the Water Quality/Hydrology Section of the EIR/EIS. • Funding issues are outside the scope of the EIR/EIS, which focuses on environmental impacts. Financial information is available in the Feasibility Study for the project, which is posted on the Project website: http://www.nvr-recycledwater.org/documents.asp Additional financial analyses and funding opportunities will be evaluated outside the scope of the EIR/EIS.
California Department of Fish and Wildlife	Phone call May 20, 2014	• Would like to know about water volume and timing of water available for refuges	• This information will be included in the Project Description Chapter of the EIR/EIS
		• Concerned about water quality including salinity, selenium and pharmaceutical residuals in treated water	• The Water Quality/Hydrology Section of the EIR/EIS will evaluate the quality of the recycled water.
		• Will there be dispersion/dilution modeling in the Delta-Mendota Canal (DMC)	• Results of dispersion/dilution modeling will be included in the Water Quality/Hydrology Section of the EIR/EIS

Commenter, Affiliation	Format/Date	Comments	Response
Turlock Irrigation District	Letter, May 20, 2014	• The scope of the affected Project area is too narrowly limited to the area of Stanislaus County west of the San Joaquin River (SJR)	• The geographic scope for analysis of each environmental resource will be defined in each Section of the EIR/EIS, and will vary depending on the resource. The area will not be limited to Stanislaus County west of the San Joaquin River.
		• The affected geographic area is located both east and west of the SJR and includes the Modesto, Turlock and Delta-Mendota subbasins.	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for groundwater impacts caused by the project in the Modesto, Turlock and Delta-Mendota subbasins.
		• The scope of the affected area must be expanded to include the area east of the SJR.	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for groundwater impacts caused by the project east of the SJR, including the Modesto, Turlock and Delta-Mendota subbasins.
		• The NEPA and CEQA notices fail to include the Turlock and Modesto subbasins in the scope of the EIR/EIS and therefore fail to include mitigation for export of groundwater-based effluent.	• Neither of the Notices identified a geographic scope for the analysis of effects on groundwater. The geographic scope for analysis of each environmental resource will be defined in each Section of the EIR/EIS, and will include the Modesto, Turlock and Delta-Mendota basins. Because impacts have not yet been determined there was no mitigation included in the Notices.
		• Use of recycled water from Modesto and Turlock needs to be examined within the context of all three subbasins because adverse groundwater issues have arisen in the Turlock and Modesto subbasins due the drought.	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for groundwater impacts caused by the east of the SJR, including the Modesto, Turlock and Delta-Mendota subbasins. The analysis will compare the existing condition, in which treated wastewater is discharged to the San Joaquin River, to the proposed project, which would convey recycled water to the DMC instead of to the river.
		• Affected geographic area needs to expressly include the Turlock and Modesto groundwater subbasins, with greater focus placed on the Turlock Subbasin	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for groundwater impacts from the project east of the SJR, including the Modesto, Turlock and Delta-Mendota subbasins.

Commenter, Affiliation	Format/Date	Comments	Response
		• Because a significant portion of the treated sewage effluent would be exported from the Turlock Subbasin the EIR/EIS needs to analyze in depth mitigation measures for the export of groundwater.	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for groundwater impacts from the project east of the SJR, including the Modesto, Turlock and Delta-Mendota subbasins. However, it should be noted that the project does not include export of groundwater, and would not increase pumping of groundwater. The EIR/EIS would evaluate the extent to which groundwater recharge along the San Joaquin River could be reduced by discontinuing discharges to the river.
		• EIR/EIS needs to discuss probable reductions in surface water supplies from proposed actions by Federal and State regulatory agencies, and the resulting increased pressure on groundwater due to reduced surface water availability.	• The EIR/EIS will evaluate cumulative impacts on groundwater associated with the project combined with other reasonably foreseeable projects/actions.
		• EIR/EIS needs to describe how the project could reduce groundwater pressures within each of the three subbasins, and feasibility of providing a portion of the project's recycled water to the Turlock and Modesto Subbasins.	• The comment is suggesting an alternative that would provide recycled water to additional users. Evaluation of delivery of recycled water to the Turlock and Modesto subbasin areas is not included in the scope or purpose of the project as proposed.
		• EIR/EIS should discuss how much incremental Level 4 water for wildlife refigures would be provided by the project in Critical, Dry, Below Normal, Above Normal, and Wet water years, and address what alternate water supplies are available to the wildlife refuges during each year type.	• The Project Description will discuss the quantity and timing for providing water to the refuges. One purpose of the Project is to provide additional water to the refuges, but it is outside the scope of the EIR/EIS to identify other potential sources of water for refuges.
		• EIR/EIS needs to describe how recycled water would be allocated amount DPWD, refuges, and the Turlock Subbasin during each of the five water year types.	• The Project Description will describe how water is allocated between DPWD and the refuges. However, providing recycled water to the Turlock Subbasin is not part of the project as proposed.

Commenter, Affiliation	Format/Date	Comments	Response
		• Reclamation is required to identify alternatives to be considered, but the Notice of Intent provides no information on alternative uses.	• Alternative uses would not achieve the objectives of the project, which are to provide water to DPWD and to refuges. Alternative options for conveying water to the DMC are being considered and will be presented in the EIR/EIS.
		• EIR/EIS needs to analyze use of a portion of the recycled water for groundwater recharge in the Turlock Subbasin.	• The project, as proposed does not include recharge in the Turlock Subbasin. The Water Quality/Hydrology Section of the EIR/EIS will address the potential for groundwater impacts caused by the project in the Modesto, Turlock and Delta-Mendota subbasins, As noted above, the analysis will compare the existing condition, in which treated wastewater is discharged to the San Joaquin River, to the proposed project, which would convey recycled water to the DMC instead of to the river.
		• Cities of Turlock, Ceres and Modesto have an obligation to investigate the use of their recycled water for irrigation within their own cities.	• Such an investigation is outside the scope of the EIR/EIS. The EIR/EIS will evaluate the impact of the project, as proposed, and will consider alternatives for accomplishing the project objectives of providing water to DPWD and to the wildlife refuges.
		• EIR/EIS needs to describe to what extent existing uses of reclaimed water in the Turlock and Modesto Subbasins would be terminated or curtailed as a result of the project.	• There will be no change to the existing uses of recycled water; these uses are as follows: o Turlock Irrigation District Walnut Energy Center o Modesto Ranch Irrigation (adjacent to treatment plant) o City of Turlock Pedretti Park

Commenter, Affiliation	Format/Date	Comments	Response
		• EIR/EIS should also evaluate a Combined Alignment where the single SJR crossing is located at the end of the Harding Drain Bypass Pipeline.	• The EIR/EIS will evaluate an SJR crossing located at the end of the Harding Drain Bypass Pipeline as part of the Separate Alignments Alternative, and the alignment between Modesto and Turlock would be the same whether the single crossing was located near the Modesto Publicly Owned Treatment Works (POTW) or the Harding Drain Bypass. It will thus not be necessary to evaluate a different configuration of the Combined Alignment.
		• The EIR/EIS should analyze the history of each POTW's compliance with existing water quality standards, and describe how the Project will prevent discharge to the DMC or agricultural use before the DMC of any recycled water that does not meet water quality standards.	• The Project Description of the EIR/EIS will discuss how the treatment system and monitoring of water quality will be done to ensure adequate water quality for discharge to the DMC. The project does not include agricultural use of recycled water before it is discharged into the DMC. A discussion of the history of POTW compliance is outside the scope of the EIR/EIS.
		• EIR/EIS needs to define what it means to deliver water to DPWD at a cost that "supports regional economic sustainability". EIR/EIS needs to identify "all-in" cost per acre-foot of recycled water for DPWD, the "all-in" cost components and how those cost components will be determined	• The objective cited in the comment is intended to reflect the fact that recycled water needs to be provided at a cost that is affordable to the land owners within DPWD and is fair, reasonable, and agreed to by the Cities of Modesto and Turlock. This objective reflects the fact that the project would not be feasible if the water were not affordable to local irrigators. Cost information is available in the Feasibility Study for the project, which is posted on the Project website: http://www.nvr-recycledwater.org/documents.asp. The Feasibility Study identifies the cost components included in the cost estimate and provides cost per acre-foot for the recommended alternative and for other options that were considered. Additional detailed cost and financial information is outside the scope of the environmental document.

Commenter, Affiliation	Format/Date	Comments	Response
		• EIR/EIS needs to provide similar cost information for Incremental Level 4 water supply. • Will cost for recycled water be the same for DPWD and for refuges? • The comment lists resources which need to be considered in preparation of the EIR/EIS	• Detailed cost and financial information is outside the scope of the environmental document. • This type of cost information is outside the scope of the environmental document. • The references provided in the comment will be reviewed in preparation of the EIR/EIS.
Stanislaus County Environmental Review Committee	Letter May 23, 2014	• Project should be coordinated with the South County Corridor StanCOG Study.	• The Cities of Modesto and Turlock will coordinate with the County regarding the South County Corridor Study.
California Department of Fish and Wildlife	Letter May 20, 2014	• Special status species potentially occurring in the project area include: Swainson's hawk, white-tailed kite, golden eagle, bald eagle, giant garter snake, burrowing owl, western pond turtle, and tricolored blackbird. • The California Department of Fish and Wildlife (CDFW) is a Trustee Agency for the Project. • CDFW would need to issue an Incidental Take Permit if the project would result in take of any species listed by the State as threatened or endangered. • CDFW has regulatory authority over activities in streams or lakes. The Project may require a Streambed Alteration Agreement. • CDFW has jurisdiction over actions that could disturb nesting birds or result in take of birds.	• The Biological Resources Section of the EIR/EIS will address the potential for these species to be present in the project area. • The EIR/EIS will identify CDFW as a Trustee Agency. • The Biological Resources Section of the EIR/EIS will address the potential for take of state-listed species, and will include mitigation to avoid or mitigate potential effects. • The Project would include a pipeline crossing the San Joaquin River, which would be constructed using trenchless technology so as to avoid impacts to the river. A Streambed Alteration Agreement would still be required for the Project, and the Project would include provisions to ensure that the river is not affected by "frac-out" during construction. • The Biological Resources Section of the EIR/EIS will address the potential for impacts from the project on birds, and will include mitigation to avoid or mitigate potential effects.

Commenter, Affiliation	Format/Date	Comments	Response
		• The Project could result in pollution of Waters of the State from storm water runoff, sediment, and/or construction debris.	• Potential water quality impacts from the project will be identified in the Water Quality/Hydrology Section of the EIR/EIS, which will include measures to avoid or mitigate potential effects.
		• Take of fully-protected species, including bald eagle, white-tailed kite, and golden eagle, is prohibited.	• The Biological Resources Section of the EIR/EIS will address the potential for impacts from the project on protected species, and will include mitigation to avoid effects.
		• CDFW recommends measures to protect nesting birds, including construction outside the nesting season, preconstruction surveys, enforcement of no-disturbance buffers around identified nests, and monitoring by a qualified biologist.	• The Biological Resources Section of the EIR/EIS will address the potential for impacts from the project on birds, and will include mitigation to avoid or mitigate potential effects.
		• A qualified biologist should conduct surveys for Swainson's hawk, and no-disturbance buffers should be established around any active nests.	• The Biological Resources Section of the EIR/EIS will address the potential for impacts from the project on Swainson 's hawk, and will include mitigation to avoid or mitigate potential effects.
		• A qualified biologist should conduct surveys for protected raptors, and no-disturbance buffers should be established around any active nests.	• The Biological Resources Section of the EIR/EIS will address the potential for impacts from the project on protected raptors, and will include mitigation to avoid or mitigate potential effects.
		• Surveys should be conducted for burrowing owls, and CDFW recommendations regarding avoidance should be followed.	• The Biological Resources Section of the EIR/EIS will address the potential for impacts from the project to burrowing owls, and will include mitigation to avoid or mitigate potential effects.
		• Potential impacts to giant garter snake should be addressed and impacts should be avoided or minimized.	• The Biological Resources Section of the EIR/EIS will address the potential for impacts from the project to giant garter snake, and will include mitigation to avoid or mitigate potential effects.
		• U.S. Fish and Wildlife Service should be consulted regarding any potential impacts to federally listed species.	• The U.S. Bureau of Reclamation, as NEPA lead agency, will consult with U.S. Fish and Wildlife Service.

Commenter, Affiliation	Format/Date	Comments	Response
California State Lands Commission	Letter May 22, 2014	• The pipeline crossing of the San Joaquin River would require a lease from the California State Lands Commission (CSLC).	• The EIR/EIS will identify the jurisdiction of CSLC and the need for a lease for the pipeline crossing the San Joaquin River.
		• The Project Description should have a thorough description of proposed activities, including types of equipment, methods of construction and timing and length of activities.	• The Project Description for the EIR/EIS will provide the requested information.
		• Mitigation measures should be specific, feasible, enforceable obligations, or should include performance standards.	• Mitigation measures will be developed as requested by the comment.
		• California Department of Fish and Wildlife, California Natural Diversity Data Base and U.S. Fish and Wildlife Service databases should be consulted to identify special status species that could occur in the area. The EIR should analyze potential for occurrence, impacts to special status species, and consult with agencies to identify mitigation.	• The Biological Resources Section of the EIR/EIS will address the potential for impacts from the project on sensitive species, and will include mitigation to avoid effects.
		• GHG emissions analysis should be conducted, and mitigation should be identified.	• The EIR/EIS will include a section on greenhouse gas (GHG) emissions, which will quantify emissions and identify mitigation measures, if needed.
		• The EIR should evaluate impacts to cultural resources in the Project area, including potential for shipwrecks to occur in submerged lands.	• The Cultural Resources Section of the EIR/EIS will address the potential for impacts from the project on cultural resources, including shipwrecks, and will include mitigation to avoid effects. The City's consultant has requested shipwrecks data from the CSLC.
		• Title to all shipwrecks, archaeological sites, and historic or cultural resources in submerged lands is vested in the State under the jurisdiction of CSLC, who should be consulted if any cultural resources are discovered on state sovereign land during construction.	• The City will consult with CSLC if any resources are found within areas under CSLC jurisdiction.

Commenter, Affiliation	Format/Date	Comments	Response
		• The EIR should address potential impacts on recreational uses of the San Joaquin River	• The Recreation Section of the EIR/EIS will address the potential for impacts from the project on recreational use of the river, and will include mitigation if needed to avoid effects.
Mark Serpa	Letter May 26, 2014	• Concerned that there may be less water available in the groundwater table because project will not use recycled water to improve groundwater problem • Concerned about water quality.	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for the project to result in groundwater impacts. • The Water Quality/Hydrology Section of the EIR/EIS will address the potential for the project to result in water quality impacts.
Amber Madden	Letter May 26, 2014	• Concerned that there may be less water available in the groundwater table because project will not use recycled water to improve groundwater problem • Concerned about water quality.	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for the project to result in groundwater impacts. • The Water Quality/Hydrology Section of the EIR/EIS will address the potential for the project to result in water quality impacts.
Matt Anderson	Letter May 26, 2014	• Concerned that there may be less water available in the groundwater table because project will not use recycled water to improve groundwater problem • Concerned about water quality.	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for the project to result in groundwater impacts. • The Water Quality/Hydrology Section of the EIR/EIS will address the potential for the project to result in water quality impacts.

Commenter, Affiliation	Format/Date	Comments	Response
Robert Gioletti & Sons, Dairy, Inc.	Letter May 28, 2014	• Concerned that redirecting recycled water from the Harding Drain will create a deficit of water for those farming west of Turlock, which would require additional groundwater pumping or more surface water deliveries from Don Pedro.	• The NVRRWP does not reduce flows within the Harding Drain. Wastewater flows have been removed from the Harding Drain as part of the Harding Drain Bypass project. The issue of flow reductions in the Harding Drain was previously addressed in the Harding Drain Bypass Pipeline project Environmental Impact Report (EIR) in 2004/2005 by the City of Turlock. In March of 2014, the City of Turlock completed construction of the Harding Drain Bypass pipeline which effectively removes Turlock's wastewater flows from the Harding Drain. Turlock's recycled water will now be discharged directly to the San Joaquin River. Therefore, the City of Turlock's wastewater will no longer be discharged to the Harding Drain – regardless of the status of the North Valley Regional Recycled Water Project.
U.S. Environmental Protection Agency	Letter May 30, 2014	• EIS needs to clearly identify underlying purpose and need that is the basis for the range of alternatives.	• The purpose and need for the project was identified in the Notice of Intent that was published in the Federal Register, and will be included in the EIS. The purpose and need identifies Reclamation's role in the project.
		• The EIS should include a comprehensive description of the regulatory context of the project, including any permits that will be needed.	• The EIS will identify permits that are expected to be required. The project partners will work with the Central Valley Regional Water Quality Control Board to determine the appropriate permitting vehicle for discharge to the Delta-Mendota Canal.
		• All reasonable alternatives that fulfill the project's purpose and need should be evaluated in detail, and should include options for avoiding significant environmental effects.	• The EIS will evaluate a range of alternatives, and will include discussion of alternatives that were considered during the project planning phases, but were determined to be infeasible, or not to achieve the project objectives.
		• Project should describe rationale for determining significance of impacts and thresholds of significance should consider context of the action and its effects.	• The EIS will identify significance thresholds. Because this is a combined NEPA/CEQA document significance thresholds will consider the CEQA checklist and its listing of impacts that would be considered significant.

Commenter, Affiliation	Format/Date	Comments	Response
		• Impacts of alternatives should be compared and potential impacts quantified to the greatest extent possible.	• The EIS will present a tabular comparison of alternatives and will include quantification where possible.
		• The No Action Alternative should describe the current wastewater discharge regimes in Turlock and Modesto, specify the regulatory vehicle that governs discharge and include details of all discharge permits. Any existing compliance concerns should be identified.	• This information will be included in the EIR/EIS.
		• Each action alternative should describe the distribution of project water between irrigation and wildlife refuges.	• The Project Description will describe how water is allocated between DPWD and the refuges.
		• The range of alternatives should explore aquifer recharge as an alternate use for recycled water and should evaluate impacts of spreading basins and their uses in flood management.	• While aquifer recharge is a viable use for recycled water, it does not achieve the project objective of providing a reliable long-term water supply to DPWD, and it would not provide water for the refuges. Aquifer recharge is thus not a viable option for achieving the project purpose or addressing the need for water supply.
		• The EIR/EIS should include a robust discussion of water quality impacts, including identification of applicable water quality standards and beneficial uses of receiving waters	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for the project to result in water quality impacts.
		• The EIR/EIS should describe impacts from reduced discharge volume including impacts to San Joaquin River flow.	• The Water Quality/Hydrology Section of the EIR/EIS will address the potential for the project to affect flows in the San Joaquin River.

Commenter, Affiliation	Format/Date	Comments	Response
		• The water quality analysis should describe DPWD customers and whether any would be irrigating selenium-enriched land.	• The project would not allow irrigation of any areas that are not already being irrigated. Recycled water would provide a long-term agricultural water supply to a CVP contractor who has experienced a substantial reduction in CVP allocations due to drought conditions and Delta pumping restrictions. Substitution of recycled water for CVP water would not result in any new impacts associated with selenium runoff. In addition, DPWD irrigators are not located on any areas that have been identified as selenium-enriched.
		• Analysis should include a description of Waters of the U.S. in wildlife refuges and how any discharges to Waters of the U.S. will impact water quality.	• Recycled water would be discharged to the DMC, and would not be discharged directly to Waters of the U.S. in the wildlife refuges. The Water Quality/Hydrology Section of the EIR/EIS will address the effect of the project on water quality in the DMC.
		• The EIR/EIS should describe future environmental impacts of climate change on the project area and how the project will cope with, contribute to, or be affected by those impacts.	• The project would provide a long-term reliable water source for an area where water supplies may be reduced over time. Supplies of recycled water are far less subject to effects of climate change than other water sources. The EIR/EIS will discuss the effect of the project on climate change.
		• Submissions of environmental documents to EPA Headquarters should be made through *e-NEPA*.	• Reclamation will submit environmental documents to EPA as requested.

3.1 Issues Identified in Comments

Most of the comment submittals identified overall regulatory and environmental analysis requirements for the project. Issues identified during the scoping period are summarized below. Responses to each issue are identified in Table 1.

3.1.1 Water Quality Impacts

- Quality of water including levels of salinity, selenium and pharmaceutical residuals
- Dispersion/dilution modeling in the Delta-Mendota Canal
- Safeguards to ensure that recycled water that does not meet water quality standards is not discharged to the Delta-Mendota Canal.

3.1.2 Groundwater Impacts

- Impact on current groundwater recharge flows and patterns.
- Groundwater impacts on both sides of San Joaquin River, including Modesto, Turlock and Delta-Mendota Subbasins
- Export of groundwater from the Turlock and Modesto Subbasin
- Increasing pressure on groundwater supplies

3.1.3 Water Supply

- Potential future reductions in surface water supplies
- Potential reduction of existing use of recycled water in Turlock and Modesto

3.1.4 Alternatives

- Request for alternative that provides groundwater recharge in the Turlock and Modesto Subbasins
- Combined Alignment with single San Joaquin River crossing located at the end of the Harding Drain Bypass Pipeline

3.1.5 Project Description/Water Allocation

- Allocation of water between DPWD and wildlife refuges

3.1.6 Cumulative Impacts/Coordination with Other Projects

- Coordination with South County Corridor StanCOG Study

3.2 Comments Outside the Scope of the EIR/EIS

Detailed comments regarding cost of recycled water, and effects on ratepayers are not directly related to the environmental impact analysis, and will not be addressed in the EIR/EIS. The Feasibility Report for the project provides basic cost information, including overall cost and cost per acre-foot, that was used to evaluate whether project alternatives meet the objective of providing affordable water. The Feasibility Report is available on the project website: http://www.nvr-recycledwater.org/documents.asp. Additional financial analyses and funding opportunities will be evaluated outside the scope of the EIR/EIS.

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Attachment A – Communications Received During Scoping

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State Water Resources Control Board

MAY 02 2014

William Wong
City of Modesto
1010 Tenth Street, 4th Floor
Modesto, CA 95353

Dear Mr. Wong:

NOTICE OF PREPARATION (NOP) FOR CITY OF MODESTO (CITY); NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM (PROJECT); STANISLAUS COUNTY; STATE CLEARINGHOUSE NO. 2014042068

We understand that the City may be pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information on the preparation of the California Environmental Quality Act (CEQA) for the Project.

The State Water Board, Division of Financial Assistance, is responsible for administering the CWSRF Program. The primary purpose for the CWSRF Program is to implement the Clean Water Act and various state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, provide for estuary enhancement, and thereby protect and promote health, safety and welfare of the inhabitants of the state. The CWSRF Program provides low-interest funding equal to one-half of the most recent State General Obligation Bond Rates with a 20-year term. Applications are accepted and processed continuously. Please refer to the State Water Board's CWSRF website at:
www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml.

The CWSRF Program is partially funded by the United States Environmental Protection Agency and requires additional "CEQA-Plus" environmental documentation and review. Three enclosures are included that further explain the CWSRF Program environmental review process and the additional federal requirements. For the complete environmental application package please visit:
http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF financing commitment for the proposed Project. For further information on the CWSRF Program, please contact Mr. Ahmad Kashkoli, at (916) 341-5855.

It is important to note that prior to a CWSRF financing commitment, projects are subject to provisions of the Federal Endangered Species Act (ESA), and must obtain Section 7 clearance from the United States Department of the Interior, Fish and Wildlife Service (USFWS), and/or the United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) for any potential effects to special-status species.

Please be advised that the State Water Board will consult with USFWS, and/or NMFS regarding all federal special-status species that the Project has the potential to impact if the Project is to be funded under the CWSRF Program. The City will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur on-site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). The State Water Board has responsibility for ensuring compliance with Section 106 and the State Water Board must consult directly with the California State Historic Preservation Officer (SHPO). SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant. The City must retain a consultant that meets the Secretary of the Interior's Professional Qualifications Standards (http://www.nps.gov/history/local-law/arch_stnds_9.htm) to prepare a Section 106 compliance report.

Note that the City will need to identify the Area of Potential Effects (APE), including construction and staging areas, and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should extend to a ½-mile beyond project APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

Other federal environmental requirements pertinent to the Project under the CWSRF Program include the following (for a complete list of all environmental requirements please visit: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf):

A. Compliance with the Federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.

B. Compliance with the Coastal Zone Management Act: Identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission.

C. Protection of Wetlands: Identify any portion of the proposed Project area that should be evaluated for wetlands or United States waters delineation by the United States Army Corps of Engineers (USACE), or requires a permit from the USACE, and identify the status of coordination with the USACE.

D. Compliance with the Farmland Protection Policy Act: Identify whether the Project will result in the conversion of farmland. State the status of farmland (Prime, Unique, or Local and Statewide Importance) in the Project area and determine if this area is under a Williamson Act Contract.

E. Compliance with the Migratory Bird Treaty Act: List any birds protected under this act that may be impacted by the Project and identify conservation measures to minimize impacts.

F. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and include a copy of the Federal Emergency Management Agency flood zone maps for the area.

G. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts.

Following the preparation of the draft CEQA document for the Project, please provide us a copy of the document to review if the City is considering CWSRF financing. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review for the Project.

Thank you for providing us a copy of your NOP, and the consideration of the CWSRF for the financing of the City's Project. If you have any questions or concerns, please feel free to contact me at (916) 341-5855 or by email at Ahmad.Kashkoli@waterboards.ca.gov, or contact Vicki Lin at (916) 327-9117, or by email at Vicki.lin@waterboards.ca.gov.

Sincerely,

Ahmad Kashkoli
Senior Environmental Scientist

Enclosures (3)

1. Clean Water State Revolving Fund Environmental Review Requirements
2. Quick Reference Guide to CEQA Requirements for State Revolving Fund Loans
3. Basic Criteria for Cultural Resources Reports

cc: State Clearinghouse
(Re: SCH# 2014042068)
P.O. Box 3044
Sacramento, CA 95812-3044

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

May 6, 2014

William Wong
City of Modesto
Utility Planning and Projects Department
1010 Tenth Street, 4th Floor
Modesto, CA 95353

Agency Project: North Valley Regional Recycled Water Program

District CEQA Reference No: 20140255

Dear Mr. Wong:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Notice of Preparation for the North Valley Regional Recycled Water Program. The City of Modesto, Del Puerto Water District (DPWD) and City of Turlock (Partner Agencies) propose to implement a regional solution to address water supply shortages within DPWD's service area. The project proposes to deliver up to 59,000 acre feet per year of recycled water produced by the cities of Modesto and Turlock via the Delta-Mendota Canal. Recycled water would be conveyed from Modesto and Turlock through pipelines from their wastewater treatment facilities, crossing the San Joaquin River, and ending at the Delta-Mendota Canal. The water would then be conveyed directly to Del Puerto Water District customers. The proposed project facilities consist of pipelines and pump stations. The District offers the following comments:

Emissions Analysis

1) The District is currently designated as extreme nonattainment for the 8-hour ozone standard, attainment for PM10 and CO, and nonattainment for PM2.5 for the federal air quality standards. At the state level, the District is designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 air quality standards. The District recommends that the Air Quality section of the Environmental Impact Report (EIR) include a discussion of the following impacts:

   a) **Criteria Pollutants:** Project related criteria pollutant emissions should be identified and quantified. The discussion should include existing and post-project emissions.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

i) Construction Emissions: Construction emissions are short-term emissions and should be evaluated separate from operational emissions. The District recommends preparation of an Environmental Impact Report (EIR) if annual construction emissions cannot be reduced or mitigated to below the following levels of significance: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), or 15 tons per year particulate matter of 10 microns or less in size (PM10).

- Recommended Mitigation: To reduce impacts from construction related exhaust emissions, the District recommends feasible mitigation for the project to utilize off-road construction fleets that can achieve fleet average emissions equal to or cleaner than the Tier II emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. This can be achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards.

ii) Operational Emissions: Permitted (stationary sources) and non-permitted (mobile sources) sources should be analyzed separately. The District recommends preparation of an Environmental Impact Report (EIR) if the sum of annual permitted and non-permitted emissions cannot be reduced or mitigated to below the following levels of significance: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), or 15 tons per year particulate matter of 10 microns or less in size (PM10).

2) In addition to the discussions on potential impacts identified above, the District recommends the EIR also include the following discussions:

a) A discussion of the methodology, model assumptions, inputs and results used in characterizing the project's impact on air quality. To comply with CEQA requirements for full disclosure, the District recommends that the modeling outputs be provided as appendices to the EIR. The District further recommends that the District be provided with an electronic copy of all input and output files for all modeling.

b) A discussion of the components and phases of the project and the associated emission projections, including ongoing emissions from each previous phase.

c) A discussion of project design elements and mitigation measures, including characterization of the effectiveness of each mitigation measure incorporated into the project.

d) A discussion of whether the project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. More information on the District's attainment status can be found online by visiting the District's website at: http://valleyair.org/aqinfo/attainment.htm.

District Rules and Regulations

3) The proposed project may be subject to District Rules and Regulations, including: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), and Rule 4702 (Internal Combustion Engines). The above list of rules is neither exhaustive nor exclusive. More information regarding compliance with District rules and regulation can be obtained by:

- Visiting the District's website at http://www.valleyair.org/rules/1ruleslist.htm for a complete listing of all current District rules and regulation; or

- Visiting the District's website at http://www.valleyair.org/busind/comply/PM10/compliance_PM10.htm for information on controlling fugitive dust emissions

4) Based on the information provided to the District, the proposed project does not meet the definition of a development project. Therefore, the District concludes the proposed project is not subject to District Rule 9510 (Indirect Source Review).

5) The District recommends that a copy of the District's comments be provided to the project proponent.

If you have any questions or require further information, please contact Georgia Stewart by phone at (559) 230-5937 or by e-mail at georgia.stewart@valleyair.org.

Sincerely,

Arnaud Marjollet
Director of Permit Services

For: Chay Thao
Permit Services Manager

AM: gs

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

9 May 2014

William Wong
City of Modesto
1010 Tenth Street, 4th Floor
Modesto, CA 95353

CERTIFIED MAIL
7013 2250 0000 3465 9830

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT REPORT, NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM PROJECT, SCH# 2014042068, STANISLAUS COUNTY

Pursuant to the City of Modesto's 22 April 2014 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation of the Draft Environmental Impact Report* for the North Valley Regional Recycled Water Program Project, located in Stanislaus County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit, or any other federal permit, is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

Waste Discharge Requirements

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

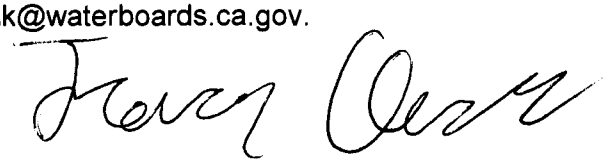
Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

If you have questions regarding these comments, please contact me at (916) 464-4684 or tcleak@waterboards.ca.gov.



Trevor Cleak
Environmental Scientist

cc: State Clearinghouse Unit, Governor's Office of Planning and Research, Sacramento

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

May 9, 2014

Regulatory Division SPK-2014-00413

William Wong
City of Modesto,
Utility Planning and Projects Department
1010 Tenth Street
Modesto, California 95354

Dear Mr. Wong:

We are responding to your April 22, 2014 request for comments on the North Valley Regional Recycled Water Program Draft Environmental Impact Report. The project is located in the Del Puerto Water District's service area, on the west side of the San Joaquin River in San Joaquin, Stanislaus and Merced Counties, South of the Sacramento-San Joaquin River Delta, in California.

The Corps of Engineers' jurisdiction within the study area is under the authority of Section 404 of the Clean Water Act for the discharge of dredged or fill material into waters of the United States, and Section 10 of the Rivers and Harbors Act. Waters of the United States include, but are not limited to, rivers, perennial or intermittent streams, lakes, ponds, wetlands, vernal pools, marshes, wet meadows, and seeps. Project features that result in the discharge of dredged or fill material into, or activities crossing waters of the United States, will require Department of the Army authorization prior to starting work. This would include the crossing of the San Joaquin River that is mentioned in the notice provided by the City of Modesto.

To ascertain the extent of waters on the project site, the applicant should prepare a wetland delineation, in accordance with the "Minimum Standards for Acceptance of Preliminary Wetlands Delineations", under "Jurisdiction" on our website at the address below, and submit it to this office for verification. A list of consultants that prepare wetland delineations and permit application documents is also available on our website at the same location.

The range of alternatives considered for this project should include alternatives that avoid impacts to wetlands or other waters of the United States. Every effort should be made to avoid project features which require the discharge of dredged or fill material into waters of the United States. In the event it can be clearly demonstrated there are no practicable alternatives to filling waters of the United States, mitigation plans should be developed to compensate for the unavoidable losses resulting from project implementation.

Please refer to identification number SPK-2014-00413 in any correspondence concerning this project. If you have any questions, please contact Stephen Willis at our California South Branch Office, 1325 J Street, Room 1350, Sacramento, California 95814-2922, by email at *Stephen.M.Willis2@usace.army.mil*, or by telephone at 916-557-7355. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx.*

Sincerely,

Kathleen A. Dadey, Ph.D
Chief, California South Branch

RECLAMATION

Managing Water in the West

North Valley Regional Recycled Water Program
EIR/EIS Scoping Meeting

COMMENT CARD

The Bureau of Reclamation is preparing an Environmental Impact Statement in accordance with the National Environmental Policy Act.

Please provide your written comments to the mailing address on the back, or fax **559-487-5397**, or e-mail **blawrence@usbr.gov**
Reclamation must receive all comments by Wednesday, May 28, 2014. Thank you.
(Please print clearly)

1. Please define the term of time for "long term"

2. Will the transporting of the recycled water & treated water away from the City of Turlock and Modesto affect current ground water recharge flows and patterns.

3. Is there a financial report that estimates Project costs and cost impacts to rate payers?

Stanislaus County

MIGUEL A. GALVEZ
Manager III

PLANNING & COMMUNITY DEVELOPMENT DEPARTMENT

www.stancounty.com/planning

1010 10th Street, Suite 3400
Modesto, CA 95354

Phone:209.525.6330
Fax:209.525.5911

email: galvezm@stancounty.com

STRIVING TO BE THE BEST

From:	Lawrence, Benjamin
To:	Robin Cort; ELIZABETH VASQUEZ; Scott Taylor; NED GRUENHAGEN
Cc:	Anthea Hansen
Subject:	Contact from Fish and Wildlife Service re: North Valley Recycled Water Program
Date:	Tuesday, May 20, 2014 12:05:14 PM

All,

I got a call this morning from Andy Gordus with the Fish and Wildlife Service. He was mainly looking for general project information and how the refuges could be affected.

His first area of interest was water volume and timing. I told him we haven't worked out all of the details, but the cities discharge year-round, and we don't expect agricultural users and the refuges to need water at the same time, so timing should be compatible.

His other questions were about water quality. He mentioned salinity and selenium, but he seemed most interested in pharmaceutical residuals in the treated water. He asked about dispersion/dilution modeling in the DMC, and I told him that would be part of the CEQA/NEPA/NPDES process.

It was generally a positive discussion. I'm sure we'll be hearing more from him in the future.

___

Ben Lawrence
Natural Resource Specialist
Bureau of Reclamation
South-Central California Area Office
Fresno, CA 93721
(559) 487-5039
blawrence@usbr.gov

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SUBMITTED VIA E-MAIL (blawrence@usbr.gov and wwong@modestogov.com) AND U.S. MAIL

May 20, 2014

United States Bureau of Reclamation
Attn: Benjamin Lawrence
1243 N Street, SCC-412
Fresno, CA 93721

William Wong
City of Modesto
Deputy Director, Utility Planning & Projects Department
1010 Tenth Street, 4th Floor
Modesto, CA 95354

Subject: Scoping Comments for the Proposed North Valley Regional Recycled Water Program EIS/EIR

Dear Mr. Lawrence and Mr. Wong:

Turlock Irrigation District (TID) is thankful for the opportunity to provide the following scoping comments for the above proposed project EIS/EIR.

TID was formed in 1887 as the first publicly owned irrigation district in California. Today, TID serves water to approximately 5,800 growers who irrigate approximately 150,000 acres within TID's irrigation boundary, in addition to providing electric service to nearly 100,000 accounts. The conjunctive use of Tuolumne River surface water applied on farmland to recharge groundwater resources is a key water management strategy that has been employed by TID for decades.

Planned recharge in wet years, combined with strategic pumping in dry years has been to the long-term benefit of the 347,000 acres that overlie the Turlock Subbasin. TID continues to search for alternatives to bolster the long-term sustainability of the Turlock Subbasin. This is one example of TID's willingness to find solutions to current and future groundwater problems that affect the entire Subbasin, not just the portion of the basin underneath TID's irrigation boundary. In addition to surface water application, TID sees promise in the future application of recycled water to TID irrigated lands and the Turlock Subbasin as a groundwater replenishment tool. Additionally, TID operates in accordance with a Groundwater Management Plan that was created in conjunction with the Turlock Groundwater Basin Association, of which TID is a founding member.

Section 3.5 of Reclamation's NEPA Handbook sets forth the USBR's scoping requirements. It states that the purpose of scoping is to obtain information that will focus the NEPA analysis on the potentially significant issues and deemphasize insignificant issues. The information gathered either identifies or can be used to identify all or some of the following: Significant resource issues, resources available for the

study, study constraints, alternatives to be considered, potentially affected geographic area, and potential effects.

1. USBR is required to identify and assess the "potentially affected geographical area." Reclamation's NEPA Handbook (2012), Section 3.5. The proposed scope of the affected Project area is too narrowly limited to the area of Stanislaus County located west of the San Joaquin River.

1.1. The stated "objective of the Proposed Action is to maximize use of a sustainable, alternative water supply for the region that addresses reductions in water supplies from the Central Valley Project (CVP) and offsets pressure on groundwater use." Within Stanislaus County, only the area west of the San Joaquin River (SJR) receives CVP water supplies, whereas the affected geographic area is both west and east of the SJR. The affected geographic area of the proposed project includes San Joaquin River Hydrologic Region subbasins 5-22.02 (Modesto), 5-22.03 (Turlock), and 5-22.07 (Delta-Mendota) as described in DWR Bulletin 118.

1.2. All of the sewer effluent for the Proposed Action comes from the Turlock and Modesto subbasins, which are located east of the SJR. The source water for all of the effluent derived from the cities of Turlock, Ceres, and Modesto south of the Tuolumne River is 100% groundwater from the Turlock Subbasin. Both subbasins are experiencing greater pressure on groundwater use than the area west of the SJR. However, since there is no CVP water delivered east of the SJR, the scope of the affected geographic area must be expanded to include the area east of the SJR where the sewage effluent originates and where there is greater pressure on the groundwater subbasins.

1.3. Both the NEPA and CEQA notices of preparation fail to include the Turlock and Modesto Subbasins within the scope of the proposed EIS/EIR and, therefore, fail to include mitigation for the export of this groundwater-based sewage effluent from the Turlock Subbasin.

2. Stanislaus County Groundwater Issues

The Turlock Subbasin is described in the 2008 Turlock Groundwater Basin Groundwater Management Plan. The Subbasin is bounded by the Tuolumne River on the north, the Merced River on the south, the San Joaquin River on the west, and on the east by the western extent of the outcrop of crystalline basement rock in the foothills of the Sierra Nevada Mountains. The City of Turlock, the City of Ceres, and the portion of the City of Modesto south of the Tuolumne River ("South Modesto") are within this Subbasin and within TID's political and irrigation boundaries. The Subbasin underlies an area of approximately 347,000 acres, with irrigated crops (245,000 acres), native vegetation (69,000 acres), and urban development (20,000 acres) as the predominant land uses. Urban development and irrigated lands have expanded since 2008, most of which expanded uses are in 100% groundwater supplied areas.

While the Turlock Irrigation District provides surface water from the Tuolumne River for agricultural uses within the Subbasin, the City of Turlock, the City of Ceres, and South Modesto rely 100% on groundwater. Much of the cities' groundwater ends up as sewer effluent treated at the City of Turlock's and the City of Modesto's respective publicly owned treatment plants or works ("POTW"). The proposed use of the recycled water from the two POTWs to offset pressure on groundwater use is at the heart of the proposed project and needs to be examined within the context of all three subbasins.

Stanislaus County has formed a Water Advisory Committee to address short-term and long-term groundwater management issues within the County that have been accentuated by the three-year drought. Adverse groundwater quantity and elevation issues have arisen within the Turlock and Modesto subbasins and have resulted in a lawsuit against the County for the issuance of new agricultural well permits in Eastern Stanislaus County.

3. Preliminary list of issues that the EIS/EIR will need to examine, discuss, and analyze. TID reserves the right to supplement the following list as more project information is provided by the NEPA and CEQA lead agencies and the project proponents:

3.1. As explained about, the USBR's stated "objective of the Proposed Action is to maximize use of a sustainable, alternative water supply for the region that addresses reductions in water supplies from the Central Valley Project (CVP) and offsets pressure on groundwater use." That objective is too narrowly worded. The affected geographic area of the project needs to expressly include the Turlock and Modesto groundwater subbasins with the greater focused placed on the Turlock Subbasin.

3.2. Because a significant portion of the project's treated sewage effluent to be exported to the Delta-Mendota Subbasin originates as Turlock Subbasin groundwater, the EIS/EIR needs to analyze in depth mitigation measures for that export.

3.3. Concurrent with inclusion of the Turlock and Modesto subbasins in the "affected geographic area" to be assessed by the EIS/EIR, the EIS/EIR needs to recognize and discuss the probable reductions in surface water supplies to those two subbasins from proposed actions by Federal and State regulatory agencies and the resulting increased pressure on those subbasins' groundwater uses due to reduced surface water availability.

3.4. Given the expected reduction in surface water supplies to the three subbasins, the EIS/EIR will need to describe and analyze how the project could reduce groundwater pressures within each of the three subbasins and feasibility of providing a portion of the project's recycled water to the Turlock and Modesto Subbasins.

3.5. The Notice states that the recycled water from the project would be allocated between Del Puerto Water District and South of Delta CVPIA wildlife refuges. The EIS/EIR will need to discuss how much Incremental Level 4 water for wildlife refuges is proposed to be met by the project during Critical, Dry, Below Normal, Above Normal, and Wet water years using the State Water Resources Control Board's "San Joaquin Valley Water Year Hydrologic Classification." The EIS/EIR will need to describe what alternate water supplies are available to the wildlife refuges during each of the five water year types.

3.6. The EIS/EIR will need to describe how the project's recycled water is proposed to be allocated among DPWD, Incremental Level 4 water supplies, and at least the Turlock Subbasin during each of the five water year types. The benefits and impacts of the Proposed Action cannot be adequately assessed until that allocation formula, and alternatives thereof, is described and analyzed in

the EIS/EIR.

3.7. USBR is required to identify and assess the "Alternatives to be considered." Reclamation's NEPA Handbook (2012), Section 3.5. USBR's Notice of Intent to Prepare a Draft EIS/EIR provides no information on alternative uses for the project's recycled water.

a. As described above, the EIS/EIR will need to describe and analyze the use of a portion of the recycled water for groundwater recharge within the Turlock Subbasin through direct recharge or in-lieu groundwater recharge. This in depth analysis is required both as a mitigation measure for the export of the Turlock Subbasin groundwater-based sewer effluent and as an alternative use for the project's recycled water.

b. The cities of Turlock, Ceres, and Modesto have an obligation to investigate the use their recycled water for the irrigation of city parks, medians, landscaping, golf courses, and other areas in order to offset the potable water currently being used for those purposes. The EIS/EIR needs to address the cities' alternative uses of the project's recycled water to reduce potable water use within their own cities. The sale of the project's recycled water would appear to discourage the cities from making the capital investments needed to increase in-city uses of the recycled water, especially if coupled with an agreement with TID to purchase Tuolumne River water to supplement the cities' groundwater supplies.

3.8. Related to 3.6 b. above, the EIS/EIR will need to describe to what extent existing uses of reclaimed water within the Turlock and Modesto Subbasins will be terminated or curtailed as a result of exporting the recycled water out of those subbasins.

3.9. The EIS/EIR will need to describe and analyze proposed alternative recycled water pipeline alignments both east and west of the SJR and the locations of proposed SJR crossings. From the May 13, 2014 scoping meeting, TID now understands that the so-called "Separate Alignments" project configuration, where there would be a separate SJR crossing and pipeline to the DMC from each POTW is not the preferred project and that the so-called "Combined Alignment" is the preferred project. The Combined Alignment consists of a single SJR crossing connected to the City of Modesto POTW and the construction of a 37,800 linear feet, 42-inch inner diameter pipeline from the end of the City of Turlock's Harding Drain Bypass Project pipeline to the City of Modesto POTW via South Carpenter Road, West Main Avenue, and Jennings Road. Alternative alignments for this connecting pipeline should be investigated. A Combined Alignment whereby the single SJR crossing is located at the end of the Harding Drain Bypass Project pipeline should also be investigated.

3.10. The EIS/EIR will need to describe and analyze the history of each POTW's compliance with existing water quality standards. The EIS/EIR will also need to describe and analyze how each POTW will prevent the discharge into the DMC or for agricultural use before the DMC of any recycled, which fails to meet the required water quality standards for discharge into the DMC or for unrestricted agricultural water use.

3.11. One of the objectives of the Proposed Action is to "Deliver agricultural water to DPWD at a cost that supports regional economic sustainability." The EIS/EIR will need to define what the term "supports regional economic sustainability" means. Further, it will need to identify the projected "all-in"

cost per acre-foot of recycled water from the project for agricultural use by DPWD, the "all-in" cost components, and how those cost components will be determined.

3.12. Similarly, the EIS/EIR will need to identify the projected "all-in" cost per acre-foot of recycled water from the project for Incremental Level 4 water supply, the "all-in" cost components, and how those cost components will be determined.

3.13. Will the projected "all-in" costs per acre-foot of recycled water from the Proposed Action be the same for both agricultural use by DPWD and for wildlife refuge use? If not, why not? Is the Federal Government requiring that water for wildlife refuge use be priced at a lower per-acre-foot cost?

4. The following is a very preliminary list of resources available, which need to be considered by USBR in preparing the EIS/EIR:

Department of Water Resources, State of California (2003). *California's Groundwater Bulletin 118 Update 2003*. Sacramento, CA; Department of Water Resources.

Department of Water Resources, State of California (2014). *Public update for drought response: Groundwater basins with potential water shortages and gaps in groundwater monitoring*. Sacramento, CA; Department of Water Resources.

Durbin, Timothy J. (2008). Assessment of Future Groundwater Impacts Due to Assumed Water-Use Changes – Turlock Groundwater Basin, California. Carmichael, CA; Timothy J. Durbin, Inc., Consulting Hydrologists.

Stanislaus County Water Advisory Committee (2014). Various documents produced. Modesto, CA; Stanislaus County.

Stantec Consulting Inc. (2007). *West Park Water System Master Plan*. Modesto, CA; Stantec Consulting Inc.

Turlock Irrigation District (2008). *Turlock Groundwater Basin Groundwater Management Plan*. Turlock, CA; Turlock Irrigation District.

If you have any questions or need any information to clarify or supplement the above comments, please contact Tou Her at 209.883.8365 or e-mail tbher@tid.org.

Sincerely,

Tou Her
Assistant General Manager, Water Resources
Turlock Irrigation District

Stanislaus County
Striving to be the Best

CHIEF EXECUTIVE OFFICE

Stan Risen
Chief Executive Officer

Patricia Hill Thomas
Chief Operations Officer/
Assistant Executive Officer

Keith D. Boggs
Assistant Executive Officer

Jody Hayes
Assistant Executive Officer

1010 10th Street, Suite 6800, Modesto, CA 95354
Post Office Box 3404, Modesto, CA 95353-3404

Phone: 209.525.6333 Fax 209.544.6226

STANISLAUS COUNTY ENVIRONMENTAL REVIEW COMMITTEE

May 23, 2014

William Wong, Acting Director
City of Modesto, Utility Planning and Projects Department
1010 Tenth Street, 4th Floor
Modesto, CA 95357

SUBJECT: ENVIRONMENTAL REFERRAL – CITY OF MODESTO, UTILITY PLANNING AND PROJECTS DEPARTMENT – NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING FOR THE NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM

Mr. Wong:

Thank you for the opportunity to review the Notice of Preparation of a Draft Environmental Impact Report and Scoping Meeting for the above-referenced project.

The Stanislaus County Environmental Review Committee (ERC) has reviewed the subject project and submits the following comments:

The ERC is requesting / recommending that the City of Modesto Utility Planning and Projects Department coordinate their project with the South County Corridor StanCOG study.

The ERC appreciates the opportunity to comment on this project. If you have any questions regarding this request/recommendation, please contact me at the number listed above.

Sincerely,

Delilah Vasquez, Management Consultant
Environmental Review Committee

DV:ss

cc: ERC Members

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

May 20, 2014

William Wong
City of Modesto
1010 10th Street, 4th Floor
Modesto, California 95353

Subject: Notice of Preparation
North Valley Regional Recycled Water Program
SCH#: 2014042068

Dear Mr. Wong:

The California Department of Fish and Wildlife (Department) has reviewed the North Valley Regional Recycled Water Program (Project) submitted by the City of Modesto. The City of Modesto, Del Puerto Water District (DPWD), and City of Turlock propose to implement a regional solution to address water supply shortage within DPWD's service area on the west side of the San Joaquin River in San Joaquin, Stanislaus, and Merced Counties, south of the Sacramento-San Joaquin River Delta (Delta). Specifically, the Project proposes to deliver up to 59,000 acre feet per year of recycled water produced by the cities of Modesto and Turlock via the Delta-Mendota Canal (DMC), a feature of the Central Valley Project owned by the United Stated Bureau of Reclamation (USBR). Recycled water would be conveyed from Modesto and Turlock through pipelines from their wastewater treatment facilities, crossing the San Joaquin River, and ending at the DMC. The recycled water would be conveyed directly to DPWD customers. In addition to uses within DPWD's service area, the Project proposes to provide water to Central Valley Project Improvement Act designated Refuges located south of the Delta to meet their need for water supply. The overall objective of the proposed Project is to maximize beneficial use of a sustainable, alternative water supply within the region to address reductions in water supplies from the Central Valley Project, and reduce the reliance on groundwater use. Two construction alternatives are proposed for the pipeline and pump stations in Stanislaus County. Alternative 1 is a separate alignment alternative involving two connections to the DMC routed along Lemon Avenue and Zacharias Avenue, and along Pomegranate Avenue and West Marshall Avenue. Alternative 2 is a combined alignment alternative that involves Turlock's Harding Drain Pipeline being routed to the Modesto treatment facility and then connecting to the DMC with one connection along Lemon Avenue and Zacharias Avenue.

Special status species such as the State threatened Swainson's hawk (*Buteo swainsoni*), the State fully protected white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), the State endangered and fully protected bald eagle (*Haliaeetus*

leucocephalus), the State and federally threatened giant garter snake (*Thamnophis gigas*), and the State Species of Special Concern burrowing owl (*Athene cunicularia*), western pond turtle (*Actinemys marmorata*), and tricolored blackbird (*Agelaius tricolor*) may occur in or adjacent to the Project area. The Department recommends that Project-related impacts to these biological resources are evaluated and addressed prior to Project approval and implementation. The Department also recommends that the avoidance, minimization, and mitigation measures provided in this comment letter are included as enforceable conditions of Project approval in the Environmental Impact Report (EIR) document to reduce potential impacts to biological resources to less than significant. Our specific comments follow.

Department Jurisdiction

Trustee Agency Authority: The Department is a Trustee Agency with responsibility under the California Environmental Quality Act (CEQA) for commenting on projects that could impact plant and wildlife resources. Pursuant to Fish and Game Code Section 1802, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species. As a Trustee Agency for fish and wildlife resources, the Department is responsible for providing, as available, biological expertise to review and comment upon environmental documents and impacts arising from project activities, as those terms are used under CEQA (Division 13 [commencing with Section 21000] of the Public Resources Code).

Responsible Agency Authority: The Department has regulatory authority over projects that could result in the "take" of any species listed by the State as threatened or endangered, pursuant to Fish and Game Code Section 2081. If the Project could result in the "take" of any species listed as threatened or endangered under the California Endangered Species Act (CESA), the Department may need to issue an Incidental Take Permit (ITP) for the Project. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (sections 21001{c}, 21083, Guidelines sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports a Statement of Overriding Consideration (SOC). The CEQA Lead Agency's SOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code Section 2080. The Project has the potential to reduce the number or restrict the range of endangered, rare, or threatened species (as defined in Section 15380 of CEQA).

Lake or Stream Alteration Agreement (LSAA): The Department also has regulatory authority with regard to activities occurring in streams and/or lakes that could adversely affect any fish or wildlife resource, pursuant to Fish and Game Code sections 1600 *et seq.* If any Project-planned activities will substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into

any river, stream, or lake; a Lake or Streambed Alteration Notification to the Department is warranted and an LSAA may be necessary to comply with Fish and Game Code. The Department is required to comply with CEQA in the issuance or the renewal of a Stream Alteration Agreement. Therefore, for efficiency in environmental compliance, we recommend that the stream disturbance be described, and mitigation for the disturbance be developed as part of the environmental review process. This will reduce the need for the Department to require extensive additional environmental review to issue an LSAA, if necessary, for this Project in the future. For additional information on notification requirements, please contact our staff in the Stream Alteration Program at (559) 243-4593.

Bird Protection: The Department has jurisdiction over actions which may result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

Water Pollution: Pursuant to Fish and Game Code Section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into "Waters of the State" any substance or material deleterious to fish, plant life, or bird life, including non-native species. It is possible that without mitigation measures this Project could result in pollution of Waters of the State from storm water runoff, sediment, and/or construction debris. The Department recommends consultation with the Central Valley Regional Water Quality Control Board and the United States Army Corps of Engineers regarding potential impacts to Waters of the State.

Fully Protected Species: The Department has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish pursuant to Fish and Game Code Sections 3511, 4700, 5050, and 5515. Take of any fully protected species is prohibited and the Department cannot authorize their take. Bald eagle, white-tailed kite, and golden eagle are fully protected species that could be present within or adjacent to the Project area. Application of avoidance and minimization measures in the CEQA document is advised if this species is detected.

Potential Project Impacts and Recommendations

Nesting Birds: The trees, shrubs, and grasses within and in the vicinity of the Project site likely provide nesting habitat for songbirds and raptors. The Department encourages Project implementation to occur during the non-nesting bird season. However, if ground or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in any violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above. Prior to work commencing, the recommends surveys for active nests be conducted by a qualified wildlife biologist no more than 10 days prior to the start of any ground or

vegetation disturbance and that the surveys be conducted in a sufficient area around the work site to identify any nests that are present and to determine their status. A sufficient area means any nest within an area that could potentially be affected by the Project. In addition to direct impacts, such as nest destruction, nests may be affected by noise, vibration, odors, and movement of workers or equipment. Identified nests should be continuously surveyed for the first 24 hours prior to any construction-related activities to establish a behavioral baseline. Once work commences, all nests should be continuously monitored to detect any behavioral changes as a result of the Project. If behavioral changes are observed, the work causing that change should cease and the Department consulted for additional avoidance and minimization measures.
If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, the Department recommends a minimum no-disturbance buffer of 500-foot no-disturbance buffer around the nests of unlisted raptors and 250 feet around active nests of other non-listed bird species until the breeding season has ended, or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no-disturbance buffers may be implemented when there is compelling biological or ecological reason to do so, such as when the Project area would be concealed from a nest site by topography. Any variance from these buffers is advised to be supported by a qualified wildlife biologist and it is recommended the Department be notified in advance of implementation of a no-disturbance buffer variance.

Swainson's Hawk (SWHA): This State threatened species is known to nest and forage within Stanislaus County. To evaluate potential Project-related impacts, the Department recommends that a qualified wildlife biologist conduct surveys for nesting raptors following the survey methodology developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC, 2000) prior to ground-disturbing activities.

If ground and vegetation disturbing Project activities will occur during the normal bird breeding season (February 1 through September 15), the Department recommends that additional pre-construction surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of construction. The Department recommends a minimum no-disturbance buffer of 0.5 miles around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and is no longer reliant upon the nest or parental care for survival to avoid potential take of SWHA. We also recommend the buffer is clearly delineated for Project employees. If a 0.5 mile buffer is not feasible, we recommend consultation with the Department to discuss how to implement the Project and avoid "take". If "take" cannot be avoided, an ITP is warranted to comply with CESA.

Fully Protected Raptors: The State fully protected white tailed kite, State fully protected golden eagle, and the State endangered and fully protected bald eagle are known to nest and forage in Stanislaus County. Projects within occupied territories have the potential to significantly impact the species. The Department recommends that focused surveys be conducted by experienced biologists prior to Project implementation. To avoid impact to these species, following the survey methodology

developed by the Department (CDFG, 2010) is advised. In the event that the species are found within ½-mile of a proposed activity site, implementation of avoidance measures are warranted. The Department recommends that a qualified wildlife biologist be on-site during all ground-disturbing/construction related activities and that a 0.5 mile no-disturbance buffer be put into effect. If the 0.5 mile no-disturbance buffer cannot feasibly be implemented, contacting the Department is advised to assist with providing and implementing additional avoidance measures. The Department recommends fully addressing mitigation measures for fully protected raptor species in the EIR.

Burrowing Owl: Burrowing owl has the potential to be present in and adjacent to the Project area. It is possible Project activities could impact this species. Burrowing owls have the potential to be year-round residents, dispersing juveniles, migrants, transients or new colonizers and can utilize the Project site year round. Therefore, the Department recommends the survey methodology described in the Staff Report on Burrowing Owl Mitigation dated March 7, 2012 (CDFG 2012) be followed prior to ground-disturbing activities. In the event that burrowing owls are found, the Department's Staff Report on Burrowing Owl Mitigation (CDFG 2012) recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by the Department verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

* meters (m)

Giant Garter Snake: There is the potential for this State and federally listed species to utilize the surface waters and upland habitat along the San Joaquin River. The Department advises that potential impacts to the species be fully addressed in the EIR for the Project. The Department recommends "Appendix C Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake (*Thamnophis gigas*) Habitat" of the United States Fish and Wildlife Service's (USFWS) "Programmatic Consultation with the United States Army Corps of Engineers, 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California", be followed to avoid and minimize potential impacts to giant garter snake. This document can be found at http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/ggs%20appendix%20c.pdf.

Please note that these measures do not authorize take of giant garter snake pursuant to CESA. We recommend consultation with the Department to discuss how to implement the Project and avoid "take" under CESA after a habitat assessment for this species is completed. If "take" cannot be avoided, an ITP is warranted to comply with CESA.

Federally Listed Species: The Department also recommends consulting with the USFWS on potential impacts to federally listed species including, but not limited to giant garter snake. "Take" under the Federal Endangered Species Act (FESA) is more broadly defined than CESA; take under FESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS in order to comply with FESA is advised well in advance of Project implementation.

More information on survey and monitoring protocols for sensitive species can be found at the Department's website (www.dfg.ca.gov/wildlife/nongame/survey_monitor.html). If you have any questions on these issues, please contact Jim Vang, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014, extension 254, or by electronic mail at Jim.Vang@wildlife.ca.gov.

Sincerely,

Jeffrey R. Single, Ph.D.
Regional Manager

cc: Thomas Leeman
United States Fish and Wildlife Service
2800 Cottage Way, Suite W-2605
Sacramento, California 95825

California Regional Water Quality Control Board
Central Valley Region
1685 "E" Street
Fresno, California 93706-2020

United States Army Corps of Engineers
1325 "J" Street, Suite #1350
Sacramento, California 95814-2928

Literature Cited

CDFG. 2010. Bald Eagle Breeding Survey Instructions. California Department of Fish and Game, April 2010.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game.

SWHA TAC. 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Swainson's Hawk Technical Advisory Committee, May 31, 2000.

USFWS. Programmatic Consultation with the United States Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California, Appendix C Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake (*Thamnophis gigas*) Habitat USFWS.

CALIFORNIA STATE LANDS COMMISSION
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Sacramento, CA 95825-8202

JENNIFER LUCCHESI, *Executive Officer*
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from Voice Phone 1-800-735-2922

Contact Phone: **(916) 574-1890**
Contact FAX: **(916) 574-1885**

Established in 1938

May 22, 2014

File Ref: SCH #2 014042068

City of Modesto
William Wong
1010 Tenth Street, 4th Floor
Modesto, CA 95353

Subject: Notice of Preparation (NOP) for an Environmental Impact Report (EIR) for the North Valley Regional Recycled Water Program in San Joaquin, Stanislaus, and Merced Counties

Dear Mr. Wong,

The California State Lands Commission (CSLC) staff has reviewed the subject NOP for an EIR for the North Valley Regional Recycled Water Program (Project), which is being prepared by the city of Modesto (Modesto). Modesto, as a public agency proposing the Project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The CSLC is a trustee agency because of its trust responsibility for projects that could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters. Additionally, because the Project involves work on sovereign lands, the CSLC will act as a responsible agency.

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not

limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On navigable non-tidal waterways, including lakes, the State holds fee ownership of the bed of the waterway landward to the ordinary low water mark and a Public Trust easement landward to the ordinary high water mark, except where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

After reviewing the information contained in the NOP, CSLC staff has determined the Project will be located along areas of the natural bed of the San Joaquin River on State-owned sovereign land under the jurisdiction of the CSLC. Therefore, a lease from the CSLC will be required for Modesto to implement the Project on sovereign lands. Please contact Wendy Hall (see contact information below) for further information about the extent of the CSLC's sovereign ownership and leasing requirements.

Please also be advised that the waterways involved in the Project are subject to a public navigational easement. This easement provides that the public has the right to navigate and exercise the incidences of navigation in a lawful manner on State waters that are capable of being physically navigated by oar or motor-propelled small craft. Such uses may include, but are not limited to, boating, rafting, sailing, rowing, fishing, fowling, bathing, skiing, and other water-related public uses. The activities completed under the Project must not restrict or impede the easement right of the public.

These comments are made without prejudice to any future assertion of State ownership or public rights, should circumstances change, or should additional information become available. This letter is not intended, nor should it be construed as a waiver or limitation of any right, title, or interest of the State of California in any lands under its jurisdiction.

Project Description

Modesto, Del Puerto Water District (DPWD), and city of Turlock (Partner Agencies) proposed to implement a regional solution to address water supply shortages within DPWD's service area on the west side of the San Joaquin River in San Joaquin, Stanislaus, and Merced Counties; south of the Sacramento-San Joaquin River Delta (Delta). The Project proposes to deliver up to 59,000 acre feet per year (AFY) of recycled water produced from Modesto and Turlock through pipelines from their wastewater treatment facilities, crossing the San Joaquin River, and ending at the Delta-Mendota Canal (DMC). The recycled water would then be conveyed directly to DPWD customers.

The overall objective of the proposed Project is to maximize beneficial use of a sustainable, alternative water supply within the region to address reductions in water supplies from the Central Valley Project (CVP), and to reduce reliance on groundwater. Since DMC is a feature of the Central Valley Project owned by the United States Bureau of Reclamation (USBR), the Project also proposes to provide water to Central Valley Project Improvement Act (CVPIA) designated Refuges located south of the Delta to

meet their need for water supply. Specifically, the objectives of the Project are as follows:

- Establish an alternative, reliable, long-term water supply of up to 59,000 AFY of recycled water for DPWD;
- Maximize the beneficial use of recycled water to DPWD customers and south of Delta CVPIA designated wildlife refuges;
- Maximize Project Partners' control of operations and delivery of water;
- Establish a long-term water right to allow for the beneficial reuse of recycled water;
- Maximize use of existing facilities for treatment / delivery of recycled water;
- Provide supplemental annual water supplies to south of Delta CVPIA designated refuges as available to meet Federal requirements;
- Avoid or minimize, through incorporation of design constraints and management practices, impacts to environmental resources such as surface water, groundwater levels, land subsidence, groundwater quality and biological resources including sensitive species; and
- Deliver agricultural water to DPWD at a cost that supports regional economic sustainability.

Environmental Review

CSLC staff requests that Modesto consider the following comments when preparing the Draft EIR.

General Comments

1. Project Description: A thorough and complete Project Description should be included in the EIR in order to facilitate meaningful environmental review of potential impacts, mitigation measures, and alternatives. The Project Description should be as precise as possible in describing the details of all allowable activities (e.g., types of equipment or methods that may be used), as well as the details of the timing and length of activities. Thorough descriptions will facilitate CSLC staff's determination of the extent and locations of its leasing jurisdiction, make for a more robust analysis of the work that may be performed, and minimize the potential for subsequent environmental analysis to be required.

2. Mitigation Measures: The EIR should not include any deferred mitigation measures. The mitigation measures should either be presented as specific, feasible, enforceable obligations, or should be presented as formulas containing "performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way" (State CEQA Guidelines, § 15126.4, subd. (b)).

Biological Resources

3. Sensitive Species: Modesto should conduct queries of the California Department of Fish and Wildlife's (CDFW), California Natural Diversity Database (CNDDB), and U.S. Fish and Wildlife Service's (USFWS) Special Status Species Database to identify any special-status plant or wildlife species that may occur in the Project area. The EIR should analyze the potential for such species to occur in the Project area and, if impacts to special-status species are found to be significant, consult with the above agencies to identify feasible mitigation measures.

Climate Change

4. Greenhouse Gases: A greenhouse gas (GHG) emissions analysis consistent with the California Global Warming Solutions Act (AB 32) and required by the State CEQA Guidelines should be included in the EIR. This analysis should identify a threshold for significance for GHG emissions, calculate the level of GHGs that will be emitted as a result of construction and ultimate build-out of the Project, determine the significance of the impacts of those emissions, and, if impacts are significant, identify mitigation measures that would reduce them to less than significant.

Cultural Resources

5. Submerged Resources: The EIR should evaluate potential impacts to cultural resources in the Project area. The CSLC maintains a shipwrecks database that can assist with this analysis. The database includes known and potential vessels located on the State's tide and submerged lands; however, the locations of many shipwrecks remain unknown. Therefore, CSLC staff requests that Modesto contact Senior Staff Counsel Pam Griggs at the contact information noted at the end of this letter to obtain shipwrecks data from the database and CSLC records for the Project site. Please also note that any submerged archaeological site or submerged historic resource that has remained in State waters for more than 50 years is presumed to be significant.

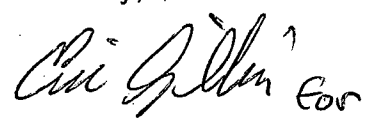
6. Title to Resources: The EIR should also mention that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands and school lands of California is vested in the State and under the jurisdiction of the CSLC. CSLC staff requests that Modesto consult with Senior Staff Counsel Pam Griggs at the contact information noted at the end of this letter, should any cultural resources on state sovereign be discovered during construction of the proposed Project.

Public Access

7. Recreational Activities: The public recreational activities such as, but not limited to, kayaking, swimming, rafting, sailing, rowing, bathing, skiing, and water-related public uses of the San Joaquin River (as explained above under the "CSLC Jurisdiction and Public Trust Lands" section) may be impacted from carrying out the proposed Project. CSLC staff requests that these possible impacts be thoroughly addressed in the EIR. If impacts are potentially significant, CSLC staff recommends proposing feasible mitigation measures to reduce these impacts to less-than-significant. Such mitigation measure may include posting public notice signs before carrying out Project-related activities.

Thank you for the opportunity to comment on the NOP for the Project. As a responsible agency, the CSLC will need to rely on the Final EIR for the issuance of a lease as specified above and, therefore, we request that you consider our comments prior to certification of the EIR. Please send copies of future Project-related documents, including electronic copies of the Final EIR, Mitigation Monitoring and Reporting Program (MMRP), Notice of Determination (NOD), CEQA Findings and, if applicable, Statement of Overriding Considerations when they become available, and refer questions concerning environmental review to Afifa Awan, Environmental Scientist, at (916) 574-1891 or via e-mail at Afifa.Awan@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Senior Staff Counsel Pam Griggs at (916) 574-1854 or via email at Pamela.Griggs@slc.ca.gov. For questions concerning CSLC leasing jurisdiction, please contact Wendy Hall, Public Land Manager at (916) 574-0994, or via email at Wendy.Hall@slc.ca.gov.

Sincerely,



Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
Afifa Awan, DEPM, CSLC
Warren Crunk, Legal, CSLC
Jennifer DeLeon, DEPM, CSLC
Pamela Griggs, Legal, CSLC
Wendy Hall, LMD, CSLC
Eric Milstein, Legal, CSLC
Mara Noelle, DEPM, CSLC

May 26, 2014

William Wong
City of Modesto, Utility Planning & Projects Dept.
1010 Tenth Street, Suite 4600
Modesto, CA 95354

Benjamin Lawrence
Bureau of Reclamation
1243 N Street, SCC-412
Fresno, CA 93721

Re: North Valley Regional Recycled Water Project

Mr. Wong and Mr. Lawrence,

I have a few concerns with the proposed North Valley Regional Recycled Water Project. My main worry is that, as a City of Turlock resident who relies entirely on the city to pump groundwater for mine and others water supply, I'm concerned there may be less water available in the groundwater table. The reason why I say this is that the project is not looking to see if it's possible to use Turlock's recycled water to improve the current groundwater problem in our area that I keep reading about.

Water quality is also a concern of mine, for the same reason I mention above. If the water is pumped here, used here, and recycled here, shouldn't it be reused here?

Sincerely,

Name	Mark Serpa
Address	2520 Tigers Dr. Turlock, Ca. 95382 209-678-1686
e-mail	mserpa@customlockandalarm.com

May 26, 2014

William Wong
City of Modesto, Utility Planning & Projects Dept.
1010 Tenth Street, Suite 4600
Modesto, CA 95354

Benjamin Lawrence
Bureau of Reclamation
1243 N Street, SCC-412
Fresno, CA 93721

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Sincerely,

Amber Madden
2700 Lander Ave #4
Turlock, Ca. 95380
amidaynow@hotmail.com

May 26, 2014

William Wong
City of Modesto, Utility Planning & Projects Dept.
1010 Tenth Street, Suite 4600
Modesto, CA 95354

Benjamin Lawrence
Bureau of Reclamation
1243 N Street, SCC-412
Fresno, CA 93721

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Sincerely,

ROBERT GIOLETTI & SONS DAIRY, INC.
118 N. BLAKER ROAD
TURLOCK, CALIFORNIA 95380
(209) 667-6024 or (209) 602-9110
giodairy@sbcglobal.net

May 28, 2014

Benjamin Lawrence
Bureau of Reclamation
1243 N Street, SCC-412
Fresno, CA 93721

William Wong
City of Modesto, Utility Dept.
1010 Tenth Street, Suite 4600
Modesto, CA 95354

Re: North Valley Recycled Water Project

Dear Mr. Lawrence and Mr. Wong:

I am writing to voice my concerns about the present proposal to redirect the City of Turlock's recycled water from the Turlock Irrigation District's Harding Drain to the Delta-Mendota Canal as part of the "North Valley Project."

My family and I have owned and operated a dairy and farming business in Turlock, California, for four generations. We employ 40 people in both operations. We have relied on TID water to irrigate our crops throughout these years, and still rely on TID to irrigate approximately 1750 acres of forage crops and over 250 acres of almonds, year around.

We receive TID water from the Harding Drain to irrigate 70 acres and another 440 acres that are in combination therewith. I am concerned about the prospect that the City of Turlock may redirect its recycled water away from the Harding Drain and into the Delta-Mendota Canal. I am concerned that this plan will adversely affect the water supply to my family's fields, particularly at crucial points when our crops absolutely need water to grow. Removing water that originated in the TID basin and exporting it across the river will probably create a deficit of water for those of us farming west of Turlock. Such water would have to be replaced by increased groundwater pumping or more surface water deliveries from Don Pedro, creating an additional burden for all involved. Therefore, I feel strongly that the reliability and quality of our water supply is in jeopardy should this diversion take effect.

Any material interruption in water supply will adversely affect our whole operation, as we rely on the ability to grow quality forage crops to feed our dairy cattle, and we rely on our orchard crop to diversify our business. There are many families relying on our operations for their livelihood, so I am asking that you please carefully consider these and other impacts to farmers utilizing the Harding Drain to irrigate their crops.

I thank you in advance for your consideration. Please feel free to contact me if you would like to discuss this matter further.

Kindest Regards,

Justin Gioletti

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAY 30 2014

Benjamin Lawrence
U.S. Bureau of Reclamation
1243 N Street, SCC-412
Fresno, CA 93721

Subject: Notice of Intent to Prepare a Draft Environmental Impact Statement for the North Valley Regional Recycled Water Program, San Joaquin, Stanislaus, and Merced Counties, CA

Dear Mr. Lawrence:

The U.S. Environmental Protection Agency has reviewed the Federal Register Notice published April 22, 2014 requesting comments on the U.S. Bureau of Reclamation's decision to prepare a Draft Environmental Impact Statement / Environmental Impact Report for the North Valley Regional Recycled Water Program. Our comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

Reclamation, along with the Del Puerto Water District, is beginning the preparation of a DEIS / EIR to evaluate alternatives that would provide recycled water from the Cities of Turlock and Modesto via the Central Valley Project's Delta-Mendota Canal to the Del Puerto Water district for irrigation and annual Incremental Level 4 water to Central Valley Project Improvement Act-designated wildlife refuges.

EPA recognizes the impacts of the current drought on water availability and delivery in California and encourages the use of recycled wastewater to address water supply concerns and to reduce pressure on groundwater use. To assist in the scoping process for the project, EPA has identified several issues for consideration in the development of the DEIS.

Purpose and Need

The DEIS for the proposed project should clearly identify the underlying purpose and need that is the basis for proposing the range of alternatives (40 CFR 1502.13). The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

The purpose and need should be a clear, objective statement of the rationale for the proposed project, as it provides the framework for identifying project alternatives. The DEIS should concisely identify why the project is being proposed, why it is being proposed now, and should focus on the specific desired outcomes of the project (e.g. secure reliable water supply, maximize beneficial use of recycled water) rather than prescribing a predetermined resolution. The purpose and need should also clearly describe Reclamation's role in the project, particularly as it relates to Central Valley Project water allocation and water contract delivery.

Regulatory Framework

The DEIS for the proposed project should include a comprehensive description of the regulatory context of the project. This section should include a description of any permits that the project will require (e.g. National Pollutant Discharge Elimination System permits for discharges to Waters of the United States).

EPA notes that the State Water Resources Control Board has published a proposed statewide General Order titled "General Waste Discharge Requirements for Recycled Water Use"[1] and is expected to consider adoption of this proposal in early June 2014. Should this proposal be adopted, aspects of the North Valley Regional Recycled Water Program may be regulated by these requirements and require coverage under the order.

Range of Alternatives

All reasonable alternatives that fulfill the project's purpose and need should be evaluated in detail, including alternatives outside the legal jurisdiction of Reclamation (40 CFR Section 1502.14(c)). The DEIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail.

A robust range of alternatives will include options for avoiding significant environmental impacts. The DEIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g. acres of wetlands impacted; change in water quality).

The No Action Alternative should clearly describe the current wastewater discharge regimes in Turlock and Modesto. It should specify the regulatory vehicle that governs the discharge regimes and include details of all permits and transfers related to the current discharge. The description of the No Action Alternative should also indicate if there are existing compliance concerns regarding any aspects of current permits and waste discharge requirements, such as volumetric or pollutant limits.

Each action alternative should describe the proposed percentage distribution of project water for irrigation and wildlife refuges and the mechanism by which this distribution might change over time.

The range of alternatives should explore aquifer recharging as an alternate use for the recycled wastewater. Such an analysis should include the environmental impacts of spreading basins and their uses in flood management.

Water Quality

Each of the Action Alternatives should include a robust discussion of impacts to water quality.

This should include identifying the applicable water quality standards and beneficial uses of receiving waters that receive discharges from the proposed project.

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[1] http://www.waterboards.ca.gov/water_issues/programs/land_disposal/docs/wd/wdr_general_order.pdf

The analysis should include a description of the impacts from reduced discharge volume to the current discharge locations and waters, including but not limited to any impacts to flow of the San Joaquin River.

Water quality analyses should also include a description of the Del Puerto Water District's irrigation customers, specifically if the customers are situated on and intending to irrigate selenium-enriched land. The analysis should account and mitigate for any selenium-contaminated irrigation runoff from such irrigation.

Further, the analysis should include a description of the Waters of the U.S. within the wildlife refuges that may receive project water and how any discharges to Waters of the U.S. will impact water quality in these locations.

Climate Change

Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. On December 7, 2009, the EPA determined that emissions of GHGs contribute to air pollution that "endangers public health and welfare" within the context of the Clean Air Act. Substantially higher temperatures and rising sea levels two of the direct impacts experienced in the west that can be attributed, at least partially, to climate change. We encourage Reclamation to draw on its extensive research into the expected effects of climate change on the arid west to create a well-informed document for the public and the decision makers.[2]

The DEIS should describe future environmental impacts of climate change on the project area and how the project will cope with, contribute to, or be affected by those impacts.

Please note that, as of October 1, 2012, EPA Headquarters no longer accepts paper copies or CDs of EISs for official filing purposes. Submissions must be made through EPA's electronic EIS submittal tool: *e-NEPA*. To begin using *e-NEPA*, you must first register with EPA's electronic reporting site - https://cdx.epa.gov/epa_home.asp. Electronic filing with EPA Headquarters does not change the requirement to submit a hard copy to the EPA Region 9 Office for review.

We appreciate the opportunity to provide comments on the preparation of the DEIS. Please send one hard copy and one CD of the DEIS to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 947-4167or prijatel.jean@epa.gov.

Sincerely,

Jean Prijatel
Environmental Review Section
Enforcement Division

[2] http://www.usbr.gov/climate/docs/ClimateChangeLiteratureSynthesis3.pdf

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Appendix B – Air Quality and GHG Emissions Calculations

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NVRRWP Alternative 1 Unphased Material Hauling and Tier 3 Mitigation

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	1.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2018
Utility Company	Modesto Irrigation District				
CO2 Intensity (lb/MWhr)	833.46	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of pump station size.

Construction Phase - Used site-specific construction schedule received from RMC by email July 2014 and Project Description. 5 simultaneous crews assumed to be working starting summer 2016.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

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Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Trips and VMT - 'Used site specific information provided by RMC in construction spreadsheet. Workers were assumed for all phases. Material hauling emissions allocated to the first phase of a construction project.

Grading - Used site specific information provided by RMC in construction spreadsheet. Workers were assumed for all phases. Material hauling emissions allocated to the first phase of a construction project.

Architectural Coating - no coatings since it is a pipeline underground. Phase used as a unique phase type.

Consumer Products - No consumer products since it is an infrastructure underground pipeline.

Area Coating - No coatings since it is a pipeline underground.

Landscape Equipment - no landscaping since infrastructure project.

Energy Use - Based on pump operation provided by RMC in construction spreadsheet.

Water And Wastewater - No emissions estimated as this is just a change in location of where water is discharged. Thus only energy associated with pumping to new discharge location considered.

Solid Waste - No change in solid waste since this is only a change in location of discharge.

Construction Off-road Equipment Mitigation - Assume Tier 3 mitigation on all equipment over 50 hp.

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tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00

tblTripsAndVMT	HaulingTripNumber	125.00	128.00
tblTripsAndVMT	HaulingTripNumber	15,116.00	15,118.00
tblTripsAndVMT	HaulingTripNumber	49.00	60.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripNumber	5.00	14.00
tblTripsAndVMT	WorkerTripNumber	60.00	32.00
tblTripsAndVMT	WorkerTripNumber	15.00	14.00
tblTripsAndVMT	WorkerTripNumber	0.00	14.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	32.00
tblTripsAndVMT	WorkerTripNumber	18.00	14.00
tblTripsAndVMT	WorkerTripNumber	50.00	32.00
tblTripsAndVMT	WorkerTripNumber	35.00	32.00

tblTripsAndVMT	WorkerTripNumber	13.00	18.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	24.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	1.4458	16.3420	11.0851	0.0211	0.9116	0.6950	1.6065	0.3623	0.6409	1.0033	0.0000	1,929.9462	1,929.9462	0.3246	0.0000	1,936.7631
2017	0.1660	1.7186	1.0178	2.4500e-003	0.1225	0.0745	0.1970	0.0180	0.0687	0.0866	0.0000	216.6978	216.6978	0.0586	0.0000	217.9281
2018	0.0127	0.1350	0.0720	2.3000e-004	0.0934	4.9200e-003	0.0983	0.0102	4.5300e-003	0.0148	0.0000	20.2911	20.2911	6.1100e-003	0.0000	20.4194
Total	**1.6245**	**18.1956**	**12.1748**	**0.0238**	**1.1275**	**0.7744**	**1.9018**	**0.3905**	**0.7141**	**1.1047**	**0.0000**	**2,166.9351**	**2,166.9351**	**0.3893**	**0.0000**	**2,175.1106**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.5648	8.6695	9.7388	0.0211	0.9116	0.3027	1.2143	0.3623	0.2989	0.6612	0.0000	1,929.9449	1,929.9449	0.3246	0.0000	1,936.7618
2017	0.0651	1.0300	1.2980	2.4500e-003	0.1225	0.0432	0.1657	0.0180	0.0432	0.0611	0.0000	216.6976	216.6976	0.0586	0.0000	217.9279
2018	5.4600e-003	0.1015	0.1173	2.3000e-004	0.0934	3.8400e-003	0.0973	0.0102	3.8400e-003	0.0141	0.0000	20.2911	20.2911	6.1100e-003	0.0000	20.4194
Total	**0.6354**	**9.8009**	**11.1541**	**0.0238**	**1.1275**	**0.3498**	**1.4772**	**0.3905**	**0.3459**	**0.7364**	**0.0000**	**2,166.9336**	**2,166.9336**	**0.3893**	**0.0000**	**2,175.1090**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**60.89**	**46.14**	**8.38**	**0.00**	**0.00**	**54.83**	**22.33**	**0.00**	**51.56**	**33.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5,837.8650	5,837.8650	0.2031	0.0420	5,855.1588
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5,837.8651**	**5,837.8651**	**0.2031**	**0.0420**	**5,855.1589**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5,837.8650	5,837.8650	0.2031	0.0420	5,855.1588
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5,837.8651**	**5,837.8651**	**0.2031**	**0.0420**	**5,855.1589**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Construction Weir Site Prep	Site Preparation	6/20/2016	7/15/2016	5	20	
2	Construction Pipe Site Prep	Site Preparation	6/20/2016	7/14/2016	5	19	
3	PumpStation Construction	Site Preparation	6/20/2016	9/9/2016	5	60	
4	River Crossing 15	Site Preparation	6/20/2016	7/8/2016	5	15	
5	Water Truck	Grading	6/20/2016	3/31/2018	5	450	
6	River Crossing 60	Grading	6/20/2016	9/9/2016	5	60	
7	River Crossing 45	Trenching	6/20/2016	8/19/2016	5	45	
8	River Crossing 120	Building Construction	6/20/2016	12/2/2016	5	120	
9	River Crossing 240	Architectural Coating	6/20/2016	6/2/2017	5	240	
10	Construction Pipe Trenching	Trenching	7/15/2016	10/25/2016	5	73	
11	Construction Weir Excavation	Grading	7/18/2016	9/9/2016	5	40	
12	Construction Weir Construction	Building Construction	9/12/2016	11/18/2016	5	50	
13	PumpStation Equipment Install	Building Construction	9/12/2016	12/2/2016	5	60	
14	Construction Pipe Pipeline	Building Construction	10/26/2016	12/30/2016	5	48	
15	Construction Weir Paving	Paving	11/21/2016	12/2/2016	5	10	
16	Construction Backfil and Paving	Paving	1/2/2017	2/8/2017	5	28	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Construction Weir Site Prep	Graders	1	8.00	174	0.41
Construction Weir Site Prep	Rubber Tired Dozers	0	7.00	255	0.40

Construction Weir Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Construction Pipe Site Prep	Graders	0	8.00	174	0.41
Construction Pipe Site Prep	Rubber Tired Dozers	2	8.00	255	0.40
Construction Pipe Site Prep	Scrapers	2	8.00	361	0.48
Construction Pipe Site Prep	Signal Boards	10	8.00	6	0.82
Construction Pipe Site Prep	Tractors/Loaders/Backhoes	0	8.00	97	0.37
PumpStation Construction	Cranes	1	4.00	226	0.29
PumpStation Construction	Excavators	1	8.00	162	0.38
PumpStation Construction	Graders	0	8.00	174	0.41
PumpStation Construction	Other Construction Equipment	1	8.00	104	0.42
PumpStation Construction	Rubber Tired Dozers	1	8.00	255	0.40
PumpStation Construction	Rubber Tired Loaders	1	8.00	199	0.36
PumpStation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
River Crossing 15	Graders	0	8.00	174	0.41
River Crossing 15	Off-Highway Trucks	2	8.00	400	0.38
River Crossing 15	Rubber Tired Dozers	0	7.00	255	0.40
River Crossing 15	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Water Truck	Graders	0	6.00	174	0.41
Water Truck	Off-Highway Trucks	1	4.00	400	0.38
Water Truck	Rubber Tired Dozers	0	6.00	255	0.40
Water Truck	Tractors/Loaders/Backhoes	0	7.00	97	0.37
River Crossing 60	Graders	0	6.00	174	0.41
River Crossing 60	Other Construction Equipment	1	8.00	215	0.42
River Crossing 60	Other Construction Equipment	1	8.00	104	0.42
River Crossing 60	Rubber Tired Dozers	1	8.00	255	0.40
River Crossing 60	Rubber Tired Loaders	1	8.00	199	0.36
River Crossing 60	Tractors/Loaders/Backhoes	0	7.00	97	0.37
River Crossing 45	Bore/Drill Rigs	1	8.00	60	0.50

River Crossing 120	Cranes	0	6.00	226	0.29
River Crossing 120	Excavators	2	8.00	162	0.38
River Crossing 120	Forklifts	0	6.00	89	0.20
River Crossing 120	Generator Sets	0	8.00	84	0.74
River Crossing 120	Off-Highway Trucks	1	4.00	400	0.38
River Crossing 120	Tractors/Loaders/Backhoes	0	6.00	97	0.37
River Crossing 120	Welders	0	8.00	46	0.45
River Crossing 240	Air Compressors	0	6.00	78	0.48
River Crossing 240	Cranes	1	4.00	226	0.29
Construction Pipe Trenching	Excavators	2	8.00	162	0.38
Construction Pipe Trenching	Graders	2	8.00	174	0.41
Construction Pipe Trenching	Rubber Tired Dozers	2	8.00	255	0.40
Construction Pipe Trenching	Scrapers	4	8.00	361	0.48
Construction Pipe Trenching	Signal Boards	10	8.00	6	0.82
Construction Pipe Trenching	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction Weir Excavation	Bore/Drill Rigs	1	6.00	205	0.50
Construction Weir Excavation	Concrete/Industrial Saws	1	8.00	81	0.73
Construction Weir Excavation	Excavators	1	2.00	162	0.38
Construction Weir Excavation	Graders	0	6.00	174	0.41
Construction Weir Excavation	Rubber Tired Dozers	1	1.00	255	0.40
Construction Weir Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Construction Weir Construction	Air Compressors	1	1.00	78	0.48
Construction Weir Construction	Cranes	1	4.00	226	0.29
Construction Weir Construction	Forklifts	2	6.00	89	0.20
Construction Weir Construction	Generator Sets	0	8.00	84	0.74
Construction Weir Construction	Pumps	1	2.00	84	0.74
Construction Weir Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Construction Weir Construction	Welders	0	8.00	46	0.45

PumpStation Equipment Install	Cranes	1	4.00	226	0.29
PumpStation Equipment Install	Forklifts	0	6.00	89	0.20
PumpStation Equipment Install	Generator Sets	0	8.00	84	0.74
PumpStation Equipment Install	Rubber Tired Loaders	1	2.00	199	0.36
PumpStation Equipment Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
PumpStation Equipment Install	Welders	0	8.00	46	0.45
Construction Pipe Pipeline	Cranes	0	6.00	226	0.29
Construction Pipe Pipeline	Forklifts	0	6.00	89	0.20
Construction Pipe Pipeline	Generator Sets	0	8.00	84	0.74
Construction Pipe Pipeline	Graders	2	8.00	174	0.41
Construction Pipe Pipeline	Scrapers	4	8.00	361	0.48
Construction Pipe Pipeline	Signal Boards	10	8.00	6	0.82
Construction Pipe Pipeline	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction Pipe Pipeline	Trenchers	2	8.00	80	0.50
Construction Pipe Pipeline	Welders	0	8.00	46	0.45
Construction Weir Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Construction Weir Paving	Pavers	1	7.00	125	0.42
Construction Weir Paving	Paving Equipment	0	8.00	130	0.36
Construction Weir Paving	Rollers	1	7.00	80	0.38
Construction Weir Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Construction Backfil and Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Construction Backfil and Paving	Off-Highway Trucks	4	8.00	400	0.38
Construction Backfil and Paving	Pavers	0	6.00	125	0.42
Construction Backfil and Paving	Paving Equipment	0	8.00	130	0.36
Construction Backfil and Paving	Rollers	2	8.00	80	0.38
Construction Backfil and Paving	Signal Boards	10	8.00	6	0.82
Construction Backfil and Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Construction Weir Site Prep	2	14.00	0.00	128.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Site Prep	14	32.00	0.00	15,118.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
PumpStation Construction	5	18.00	0.00	60.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 15	2	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Water Truck	1	2.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 60	4	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 45	1	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 120	3	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 240	1	24.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Trenching	24	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Excavation	6	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Construction	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
PumpStation Equipment Install	2	18.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Pipeline	22	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Paving	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Backfil and Paving	20	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Construction Weir Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3800e-003	0.0000	5.3800e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1364	0.0734	9.0000e-005		8.3400e-003	8.3400e-003		7.6700e-003	7.6700e-003	0.0000	8.8277	8.8277	2.6600e-003	0.0000	8.8836
Total	**0.0136**	**0.1364**	**0.0734**	**9.0000e-005**	**5.3800e-003**	**8.3400e-003**	**0.0137**	**5.8000e-004**	**7.6700e-003**	**8.2500e-003**	**0.0000**	**8.8277**	**8.8277**	**2.6600e-003**	**0.0000**	**8.8836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8800e-003	0.0249	0.0195	7.0000e-005	1.6400e-003	3.9000e-004	2.0400e-003	4.5000e-004	3.6000e-004	8.1000e-004	0.0000	6.4939	6.4939	5.0000e-005	0.0000	6.4949
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**2.5400e-003**	**0.0261**	**0.0308**	**9.0000e-005**	**3.7100e-003**	**4.1000e-004**	**4.1300e-003**	**1.0000e-003**	**3.7000e-004**	**1.3700e-003**	**0.0000**	**8.3270**	**8.3270**	**1.5000e-004**	**0.0000**	**8.3300**

3.2 Construction Weir Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3800e-003	0.0000	5.3800e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2700e-003	0.0465	0.0700	9.0000e-005		2.6200e-003	2.6200e-003		2.6200e-003	2.6200e-003	0.0000	8.8277	8.8277	2.6600e-003	0.0000	8.8836
Total	**2.2700e-003**	**0.0465**	**0.0700**	**9.0000e-005**	**5.3800e-003**	**2.6200e-003**	**8.0000e-003**	**5.8000e-004**	**2.6200e-003**	**3.2000e-003**	**0.0000**	**8.8277**	**8.8277**	**2.6600e-003**	**0.0000**	**8.8836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8800e-003	0.0249	0.0195	7.0000e-005	1.6400e-003	3.9000e-004	2.0400e-003	4.5000e-004	3.6000e-004	8.1000e-004	0.0000	6.4939	6.4939	5.0000e-005	0.0000	6.4949
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**2.5400e-003**	**0.0261**	**0.0308**	**9.0000e-005**	**3.7100e-003**	**4.1000e-004**	**4.1300e-003**	**1.0000e-003**	**3.7000e-004**	**1.3700e-003**	**0.0000**	**8.3270**	**8.3270**	**1.5000e-004**	**0.0000**	**8.3300**

3.3 Construction Pipe Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1485	0.0000	0.1485	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0552	0.6320	0.4372	5.2000e-004		0.0271	0.0271		0.0250	0.0250	0.0000	46.8398	46.8398	0.0133	0.0000	47.1188
Total	**0.0552**	**0.6320**	**0.4372**	**5.2000e-004**	**0.1485**	**0.0271**	**0.1756**	**0.0670**	**0.0250**	**0.0920**	**0.0000**	**46.8398**	**46.8398**	**0.0133**	**0.0000**	**47.1188**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.2219	2.9421	2.3021	8.3900e-003	0.1939	0.0466	0.2405	0.0533	0.0428	0.0961	0.0000	766.9890	766.9890	5.5700e-003	0.0000	767.1059
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	2.5500e-003	0.0245	5.0000e-005	4.5000e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.9805	3.9805	2.1000e-004	0.0000	3.9849
Total	**0.2233**	**2.9447**	**2.3266**	**8.4400e-003**	**0.1984**	**0.0466**	**0.2450**	**0.0545**	**0.0429**	**0.0974**	**0.0000**	**770.9695**	**770.9695**	**5.7800e-003**	**0.0000**	**771.0908**

3.3 Construction Pipe Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1485	0.0000	0.1485	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.2482	0.2684	5.2000e-004		9.4400e-003	9.4400e-003		9.4400e-003	9.4400e-003	0.0000	46.8397	46.8397	0.0133	0.0000	47.1188
Total	**0.0165**	**0.2482**	**0.2684**	**5.2000e-004**	**0.1485**	**9.4400e-003**	**0.1580**	**0.0670**	**9.4400e-003**	**0.0764**	**0.0000**	**46.8397**	**46.8397**	**0.0133**	**0.0000**	**47.1188**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.2219	2.9421	2.3021	8.3900e-003	0.1939	0.0466	0.2405	0.0533	0.0428	0.0961	0.0000	766.9890	766.9890	5.5700e-003	0.0000	767.1059
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	2.5500e-003	0.0245	5.0000e-005	4.5000e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.9805	3.9805	2.1000e-004	0.0000	3.9849
Total	**0.2233**	**2.9447**	**2.3266**	**8.4400e-003**	**0.1984**	**0.0466**	**0.2450**	**0.0545**	**0.0429**	**0.0974**	**0.0000**	**770.9695**	**770.9695**	**5.7800e-003**	**0.0000**	**771.0908**

3.4 PumpStation Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0908	1.0171	0.6076	8.1000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	75.9900	75.9900	0.0229	0.0000	76.4713
Total	**0.0908**	**1.0171**	**0.6076**	**8.1000e-004**	**0.1807**	**0.0498**	**0.2305**	**0.0993**	**0.0458**	**0.1451**	**0.0000**	**75.9900**	**75.9900**	**0.0229**	**0.0000**	**76.4713**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.8000e-004	0.0117	9.1400e-003	3.0000e-005	7.7000e-004	1.8000e-004	9.5000e-004	2.1000e-004	1.7000e-004	3.8000e-004	0.0000	3.0440	3.0440	2.0000e-005	0.0000	3.0445
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**3.4300e-003**	**0.0162**	**0.0527**	**1.3000e-004**	**8.7600e-003**	**2.4000e-004**	**9.0000e-003**	**2.3300e-003**	**2.2000e-004**	**2.5600e-003**	**0.0000**	**10.1146**	**10.1146**	**3.9000e-004**	**0.0000**	**10.1229**

3.4 PumpStation Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.3923	0.4900	8.1000e-004		0.0177	0.0177		0.0177	0.0177	0.0000	75.9899	75.9899	0.0229	0.0000	76.4712
Total	**0.0198**	**0.3923**	**0.4900**	**8.1000e-004**	**0.1807**	**0.0177**	**0.1984**	**0.0993**	**0.0177**	**0.1170**	**0.0000**	**75.9899**	**75.9899**	**0.0229**	**0.0000**	**76.4712**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.8000e-004	0.0117	9.1400e-003	3.0000e-005	7.7000e-004	1.8000e-004	9.5000e-004	2.1000e-004	1.7000e-004	3.8000e-004	0.0000	3.0440	3.0440	2.0000e-005	0.0000	3.0445
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**3.4300e-003**	**0.0162**	**0.0527**	**1.3000e-004**	**8.7600e-003**	**2.4000e-004**	**9.0000e-003**	**2.3300e-003**	**2.2000e-004**	**2.5600e-003**	**0.0000**	**10.1146**	**10.1146**	**3.9000e-004**	**0.0000**	**10.1229**

3.5 River Crossing 15 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0141	0.1628	0.0758	2.0000e-004		6.1400e-003	6.1400e-003		5.6500e-003	5.6500e-003	0.0000	18.5997	18.5997	5.6100e-003	0.0000	18.7175
Total	**0.0141**	**0.1628**	**0.0758**	**2.0000e-004**	**3.9800e-003**	**6.1400e-003**	**0.0101**	**4.3000e-004**	**5.6500e-003**	**6.0800e-003**	**0.0000**	**18.5997**	**18.5997**	**5.6100e-003**	**0.0000**	**18.7175**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 River Crossing 15 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8300e-003	0.0933	0.1046	2.0000e-004		3.5400e-003	3.5400e-003		3.5400e-003	3.5400e-003	0.0000	18.5997	18.5997	5.6100e-003	0.0000	18.7175
Total	**4.8300e-003**	**0.0933**	**0.1046**	**2.0000e-004**	**3.9800e-003**	**3.5400e-003**	**7.5200e-003**	**4.3000e-004**	**3.5400e-003**	**3.9700e-003**	**0.0000**	**18.5997**	**18.5997**	**5.6100e-003**	**0.0000**	**18.7175**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Water Truck - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0925	0.0000	0.0925	9.9800e-003	0.0000	9.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0330	0.3798	0.1769	4.6000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0330**	**0.3798**	**0.1769**	**4.6000e-004**	**0.0925**	**0.0143**	**0.1068**	**9.9800e-003**	**0.0132**	**0.0232**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.6 Water Truck - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0925	0.0000	0.0925	9.9800e-003	0.0000	9.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.2177	0.2440	4.6000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0113**	**0.2177**	**0.2440**	**4.6000e-004**	**0.0925**	**8.2600e-003**	**0.1007**	**9.9800e-003**	**8.2600e-003**	**0.0182**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.6 Water Truck - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0925	0.0000	0.0925	9.9800e-003	0.0000	9.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0567	0.6392	0.3046	8.5000e-004		0.0237	0.0237		0.0218	0.0218	0.0000	79.2671	79.2671	0.0243	0.0000	79.7772
Total	**0.0567**	**0.6392**	**0.3046**	**8.5000e-004**	**0.0925**	**0.0237**	**0.1162**	**9.9800e-003**	**0.0218**	**0.0318**	**0.0000**	**79.2671**	**79.2671**	**0.0243**	**0.0000**	**79.7772**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.6 Water Truck - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0925	0.0000	0.0925	9.9800e-003	0.0000	9.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.4043	0.4531	8.5000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	79.2670	79.2670	0.0243	0.0000	79.7771
Total	**0.0209**	**0.4043**	**0.4531**	**8.5000e-004**	**0.0925**	**0.0153**	**0.1078**	**9.9800e-003**	**0.0153**	**0.0253**	**0.0000**	**79.2670**	**79.2670**	**0.0243**	**0.0000**	**79.7771**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.6 Water Truck - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0925	0.0000	0.0925	9.9800e-003	0.0000	9.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.1346	0.0679	2.1000e-004		4.9100e-003	4.9100e-003		4.5200e-003	4.5200e-003	0.0000	19.5034	19.5034	6.0700e-003	0.0000	19.6309
Total	**0.0125**	**0.1346**	**0.0679**	**2.1000e-004**	**0.0925**	**4.9100e-003**	**0.0974**	**9.9800e-003**	**4.5200e-003**	**0.0145**	**0.0000**	**19.5034**	**19.5034**	**6.0700e-003**	**0.0000**	**19.6309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.6 Water Truck - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0925	0.0000	0.0925	9.9800e-003	0.0000	9.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1011	0.1133	2.1000e-004		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	19.5033	19.5033	6.0700e-003	0.0000	19.6308
Total	**5.2300e-003**	**0.1011**	**0.1133**	**2.1000e-004**	**0.0925**	**3.8300e-003**	**0.0963**	**9.9800e-003**	**3.8300e-003**	**0.0138**	**0.0000**	**19.5033**	**19.5033**	**6.0700e-003**	**0.0000**	**19.6308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.7 River Crossing 60 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0683	0.7562	0.4599	5.6000e-004		0.0374	0.0374		0.0344	0.0344	0.0000	53.0463	53.0463	0.0160	0.0000	53.3823
Total	**0.0683**	**0.7562**	**0.4599**	**5.6000e-004**	**0.1807**	**0.0374**	**0.2181**	**0.0993**	**0.0344**	**0.1338**	**0.0000**	**53.0463**	**53.0463**	**0.0160**	**0.0000**	**53.3823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 River Crossing 60 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.2765	0.3244	5.6000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	53.0463	53.0463	0.0160	0.0000	53.3823
Total	**0.0138**	**0.2765**	**0.3244**	**5.6000e-004**	**0.1807**	**0.0125**	**0.1932**	**0.0993**	**0.0125**	**0.1118**	**0.0000**	**53.0463**	**53.0463**	**0.0160**	**0.0000**	**53.3823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 River Crossing 45 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6600e-003	0.0455	0.0396	6.0000e-005		2.6400e-003	2.6400e-003		2.4200e-003	2.4200e-003	0.0000	5.3099	5.3099	1.6000e-003	0.0000	5.3435
Total	**3.6600e-003**	**0.0455**	**0.0396**	**6.0000e-005**		**2.6400e-003**	**2.6400e-003**		**2.4200e-003**	**2.4200e-003**	**0.0000**	**5.3099**	**5.3099**	**1.6000e-003**	**0.0000**	**5.3435**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 River Crossing 45 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4300e-003	0.0326	0.0441	6.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	5.3099	5.3099	1.6000e-003	0.0000	5.3435
Total	**1.4300e-003**	**0.0326**	**0.0441**	**6.0000e-005**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**5.3099**	**5.3099**	**1.6000e-003**	**0.0000**	**5.3435**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 River Crossing 120 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0748	0.8573	0.5630	1.0300e-003		0.0384	0.0384		0.0354	0.0354	0.0000	97.0647	97.0647	0.0293	0.0000	97.6795
Total	**0.0748**	**0.8573**	**0.5630**	**1.0300e-003**		**0.0384**	**0.0384**		**0.0354**	**0.0354**	**0.0000**	**97.0647**	**97.0647**	**0.0293**	**0.0000**	**97.6795**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 River Crossing 120 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0253	0.4889	0.6912	1.0300e-003		0.0217	0.0217		0.0217	0.0217	0.0000	97.0646	97.0646	0.0293	0.0000	97.6794
Total	**0.0253**	**0.4889**	**0.6912**	**1.0300e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**97.0646**	**97.0646**	**0.0293**	**0.0000**	**97.6794**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.10 River Crossing 240 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0252	0.2986	0.1045	2.0000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	18.6138	18.6138	5.6100e-003	0.0000	18.7317
Total	**0.0252**	**0.2986**	**0.1045**	**2.0000e-004**		**0.0136**	**0.0136**		**0.0125**	**0.0125**	**0.0000**	**18.6138**	**18.6138**	**5.6100e-003**	**0.0000**	**18.7317**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9500e-003	0.0141	0.1354	3.0000e-004	0.0249	1.8000e-004	0.0250	6.6100e-003	1.7000e-004	6.7700e-003	0.0000	21.9973	21.9973	1.1600e-003	0.0000	22.0217
Total	**7.9500e-003**	**0.0141**	**0.1354**	**3.0000e-004**	**0.0249**	**1.8000e-004**	**0.0250**	**6.6100e-003**	**1.7000e-004**	**6.7700e-003**	**0.0000**	**21.9973**	**21.9973**	**1.1600e-003**	**0.0000**	**22.0217**

3.10 River Crossing 240 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8500e-003	0.0939	0.1052	2.0000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	18.6138	18.6138	5.6100e-003	0.0000	18.7317
Total	**4.8500e-003**	**0.0939**	**0.1052**	**2.0000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**	**0.0000**	**18.6138**	**18.6138**	**5.6100e-003**	**0.0000**	**18.7317**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9500e-003	0.0141	0.1354	3.0000e-004	0.0249	1.8000e-004	0.0250	6.6100e-003	1.7000e-004	6.7700e-003	0.0000	21.9973	21.9973	1.1600e-003	0.0000	22.0217
Total	**7.9500e-003**	**0.0141**	**0.1354**	**3.0000e-004**	**0.0249**	**1.8000e-004**	**0.0250**	**6.6100e-003**	**1.7000e-004**	**6.7700e-003**	**0.0000**	**21.9973**	**21.9973**	**1.1600e-003**	**0.0000**	**22.0217**

3.10 River Crossing 240 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0178	0.2116	0.0758	1.6000e-004		9.4300e-003	9.4300e-003		8.6800e-003	8.6800e-003	0.0000	14.4007	14.4007	4.4100e-003	0.0000	14.4934
Total	**0.0178**	**0.2116**	**0.0758**	**1.6000e-004**		**9.4300e-003**	**9.4300e-003**		**8.6800e-003**	**8.6800e-003**	**0.0000**	**14.4007**	**14.4007**	**4.4100e-003**	**0.0000**	**14.4934**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3600e-003	9.8000e-003	0.0931	2.3000e-004	0.0195	1.4000e-004	0.0197	5.1900e-003	1.3000e-004	5.3200e-003	0.0000	16.5943	16.5943	8.3000e-004	0.0000	16.6117
Total	**5.3600e-003**	**9.8000e-003**	**0.0931**	**2.3000e-004**	**0.0195**	**1.4000e-004**	**0.0197**	**5.1900e-003**	**1.3000e-004**	**5.3200e-003**	**0.0000**	**16.5943**	**16.5943**	**8.3000e-004**	**0.0000**	**16.6117**

3.10 River Crossing 240 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8100e-003	0.0738	0.0827	1.6000e-004		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	14.4007	14.4007	4.4100e-003	0.0000	14.4933
Total	**3.8100e-003**	**0.0738**	**0.0827**	**1.6000e-004**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**14.4007**	**14.4007**	**4.4100e-003**	**0.0000**	**14.4933**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3600e-003	9.8000e-003	0.0931	2.3000e-004	0.0195	1.4000e-004	0.0197	5.1900e-003	1.3000e-004	5.3200e-003	0.0000	16.5943	16.5943	8.3000e-004	0.0000	16.6117
Total	**5.3600e-003**	**9.8000e-003**	**0.0931**	**2.3000e-004**	**0.0195**	**1.4000e-004**	**0.0197**	**5.1900e-003**	**1.3000e-004**	**5.3200e-003**	**0.0000**	**16.5943**	**16.5943**	**8.3000e-004**	**0.0000**	**16.6117**

3.11 Construction Pipe Trenching - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4656	5.2691	3.4466	4.3700e-003		0.2508	0.2508		0.2312	0.2312	0.0000	404.7396	404.7396	0.1189	0.0000	407.2355
Total	**0.4656**	**5.2691**	**3.4466**	**4.3700e-003**		**0.2508**	**0.2508**		**0.2312**	**0.2312**	**0.0000**	**404.7396**	**404.7396**	**0.1189**	**0.0000**	**407.2355**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	9.8100e-003	0.0942	2.1000e-004	0.0173	1.3000e-004	0.0174	4.5900e-003	1.2000e-004	4.7100e-003	0.0000	15.2934	15.2934	8.1000e-004	0.0000	15.3103
Total	**5.5300e-003**	**9.8100e-003**	**0.0942**	**2.1000e-004**	**0.0173**	**1.3000e-004**	**0.0174**	**4.5900e-003**	**1.2000e-004**	**4.7100e-003**	**0.0000**	**15.2934**	**15.2934**	**8.1000e-004**	**0.0000**	**15.3103**

3.11 Construction Pipe Trenching - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1219	2.1212	2.5865	4.3700e-003		0.0928	0.0928		0.0928	0.0928	0.0000	404.7391	404.7391	0.1189	0.0000	407.2350
Total	**0.1219**	**2.1212**	**2.5865**	**4.3700e-003**		**0.0928**	**0.0928**		**0.0928**	**0.0928**	**0.0000**	**404.7391**	**404.7391**	**0.1189**	**0.0000**	**407.2350**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	9.8100e-003	0.0942	2.1000e-004	0.0173	1.3000e-004	0.0174	4.5900e-003	1.2000e-004	4.7100e-003	0.0000	15.2934	15.2934	8.1000e-004	0.0000	15.3103
Total	**5.5300e-003**	**9.8100e-003**	**0.0942**	**2.1000e-004**	**0.0173**	**1.3000e-004**	**0.0174**	**4.5900e-003**	**1.2000e-004**	**4.7100e-003**	**0.0000**	**15.2934**	**15.2934**	**8.1000e-004**	**0.0000**	**15.3103**

3.12 Construction Weir Excavation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0334	0.3256	0.2220	4.0000e-004		0.0195	0.0195		0.0185	0.0185	0.0000	36.5032	36.5032	8.8100e-003	0.0000	36.6882
Total	**0.0334**	**0.3256**	**0.2220**	**4.0000e-004**	**0.0151**	**0.0195**	**0.0345**	**8.2800e-003**	**0.0185**	**0.0268**	**0.0000**	**36.5032**	**36.5032**	**8.8100e-003**	**0.0000**	**36.6882**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3200e-003	2.3500e-003	0.0226	5.0000e-005	4.1400e-003	3.0000e-005	4.1700e-003	1.1000e-003	3.0000e-005	1.1300e-003	0.0000	3.6662	3.6662	1.9000e-004	0.0000	3.6703
Total	**1.3200e-003**	**2.3500e-003**	**0.0226**	**5.0000e-005**	**4.1400e-003**	**3.0000e-005**	**4.1700e-003**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.6662**	**3.6662**	**1.9000e-004**	**0.0000**	**3.6703**

3.12 Construction Weir Excavation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2300e-003	0.1951	0.2497	4.0000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	36.5032	36.5032	8.8100e-003	0.0000	36.6882
Total	**9.2300e-003**	**0.1951**	**0.2497**	**4.0000e-004**	**0.0151**	**0.0110**	**0.0261**	**8.2800e-003**	**0.0110**	**0.0193**	**0.0000**	**36.5032**	**36.5032**	**8.8100e-003**	**0.0000**	**36.6882**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3200e-003	2.3500e-003	0.0226	5.0000e-005	4.1400e-003	3.0000e-005	4.1700e-003	1.1000e-003	3.0000e-005	1.1300e-003	0.0000	3.6662	3.6662	1.9000e-004	0.0000	3.6703
Total	**1.3200e-003**	**2.3500e-003**	**0.0226**	**5.0000e-005**	**4.1400e-003**	**3.0000e-005**	**4.1700e-003**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.6662**	**3.6662**	**1.9000e-004**	**0.0000**	**3.6703**

3.13 Construction Weir Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0403	0.3832	0.2373	3.4000e-004		0.0265	0.0265		0.0247	0.0247	0.0000	31.3256	31.3256	8.5300e-003	0.0000	31.5047
Total	**0.0403**	**0.3832**	**0.2373**	**3.4000e-004**		**0.0265**	**0.0265**		**0.0247**	**0.0247**	**0.0000**	**31.3256**	**31.3256**	**8.5300e-003**	**0.0000**	**31.5047**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.9400e-003	0.0282	6.0000e-005	5.1800e-003	4.0000e-005	5.2200e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.5828	4.5828	2.4000e-004	0.0000	4.5879
Total	**1.6600e-003**	**2.9400e-003**	**0.0282**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2200e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.5828**	**4.5828**	**2.4000e-004**	**0.0000**	**4.5879**

3.13 Construction Weir Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0100e-003	0.1769	0.2312	3.4000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	31.3255	31.3255	8.5300e-003	0.0000	31.5047
Total	**8.0100e-003**	**0.1769**	**0.2312**	**3.4000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**31.3255**	**31.3255**	**8.5300e-003**	**0.0000**	**31.5047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.9400e-003	0.0282	6.0000e-005	5.1800e-003	4.0000e-005	5.2200e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.5828	4.5828	2.4000e-004	0.0000	4.5879
Total	**1.6600e-003**	**2.9400e-003**	**0.0282**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2200e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.5828**	**4.5828**	**2.4000e-004**	**0.0000**	**4.5879**

3.14 PumpStation Equipment Install - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1765	0.0585	1.3000e-004		7.4600e-003	7.4600e-003		6.8600e-003	6.8600e-003	0.0000	12.3072	12.3072	3.7100e-003	0.0000	12.3851
Total	**0.0145**	**0.1765**	**0.0585**	**1.3000e-004**		**7.4600e-003**	**7.4600e-003**		**6.8600e-003**	**6.8600e-003**	**0.0000**	**12.3072**	**12.3072**	**3.7100e-003**	**0.0000**	**12.3851**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**2.5500e-003**	**4.5400e-003**	**0.0435**	**1.0000e-004**	**7.9900e-003**	**6.0000e-005**	**8.0500e-003**	**2.1200e-003**	**5.0000e-005**	**2.1800e-003**	**0.0000**	**7.0706**	**7.0706**	**3.7000e-004**	**0.0000**	**7.0784**

3.14 PumpStation Equipment Install - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2200e-003	0.0622	0.0697	1.3000e-004		2.3600e-003	2.3600e-003		2.3600e-003	2.3600e-003	0.0000	12.3072	12.3072	3.7100e-003	0.0000	12.3851
Total	**3.2200e-003**	**0.0622**	**0.0697**	**1.3000e-004**		**2.3600e-003**	**2.3600e-003**		**2.3600e-003**	**2.3600e-003**	**0.0000**	**12.3072**	**12.3072**	**3.7100e-003**	**0.0000**	**12.3851**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**2.5500e-003**	**4.5400e-003**	**0.0435**	**1.0000e-004**	**7.9900e-003**	**6.0000e-005**	**8.0500e-003**	**2.1200e-003**	**5.0000e-005**	**2.1800e-003**	**0.0000**	**7.0706**	**7.0706**	**3.7000e-004**	**0.0000**	**7.0784**

3.15 Construction Pipe Pipeline - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2548	2.8199	1.7335	2.3600e-003		0.1418	0.1418		0.1307	0.1307	0.0000	217.6375	217.6375	0.0635	0.0000	218.9715
Total	**0.2548**	**2.8199**	**1.7335**	**2.3600e-003**		**0.1418**	**0.1418**		**0.1307**	**0.1307**	**0.0000**	**217.6375**	**217.6375**	**0.0635**	**0.0000**	**218.9715**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6300e-003	6.4500e-003	0.0619	1.4000e-004	0.0114	8.0000e-005	0.0115	3.0200e-003	8.0000e-005	3.1000e-003	0.0000	10.0559	10.0559	5.3000e-004	0.0000	10.0671
Total	**3.6300e-003**	**6.4500e-003**	**0.0619**	**1.4000e-004**	**0.0114**	**8.0000e-005**	**0.0115**	**3.0200e-003**	**8.0000e-005**	**3.1000e-003**	**0.0000**	**10.0559**	**10.0559**	**5.3000e-004**	**0.0000**	**10.0671**

3.15 Construction Pipe Pipeline - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0676	1.1663	1.4087	2.3600e-003		0.0541	0.0541		0.0541	0.0541	0.0000	217.6373	217.6373	0.0635	0.0000	218.9712
Total	**0.0676**	**1.1663**	**1.4087**	**2.3600e-003**		**0.0541**	**0.0541**		**0.0541**	**0.0541**	**0.0000**	**217.6373**	**217.6373**	**0.0635**	**0.0000**	**218.9712**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6300e-003	6.4500e-003	0.0619	1.4000e-004	0.0114	8.0000e-005	0.0115	3.0200e-003	8.0000e-005	3.1000e-003	0.0000	10.0559	10.0559	5.3000e-004	0.0000	10.0671
Total	**3.6300e-003**	**6.4500e-003**	**0.0619**	**1.4000e-004**	**0.0114**	**8.0000e-005**	**0.0115**	**3.0200e-003**	**8.0000e-005**	**3.1000e-003**	**0.0000**	**10.0559**	**10.0559**	**5.3000e-004**	**0.0000**	**10.0671**

3.16 Construction Weir Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6000e-003	0.0531	0.0365	6.0000e-005		3.3000e-003	3.3000e-003		3.0600e-003	3.0600e-003	0.0000	4.9151	4.9151	1.3500e-003	0.0000	4.9433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.6000e-003**	**0.0531**	**0.0365**	**6.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0600e-003**	**3.0600e-003**	**0.0000**	**4.9151**	**4.9151**	**1.3500e-003**	**0.0000**	**4.9433**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	5.9000e-004	5.6400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9166	0.9166	5.0000e-005	0.0000	0.9176
Total	**3.3000e-004**	**5.9000e-004**	**5.6400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9166**	**0.9166**	**5.0000e-005**	**0.0000**	**0.9176**

3.16 Construction Weir Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9800e-003	0.0290	0.0385	6.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	4.9151	4.9151	1.3500e-003	0.0000	4.9433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9800e-003**	**0.0290**	**0.0385**	**6.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.6600e-003**	**1.6600e-003**	**0.0000**	**4.9151**	**4.9151**	**1.3500e-003**	**0.0000**	**4.9433**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	5.9000e-004	5.6400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9166	0.9166	5.0000e-005	0.0000	0.9176
Total	**3.3000e-004**	**5.9000e-004**	**5.6400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9166**	**0.9166**	**5.0000e-005**	**0.0000**	**0.9176**

3.17 Construction Backfil and Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0833	0.8527	0.4943	1.0800e-003		0.0411	0.0411		0.0380	0.0380	0.0000	97.5351	97.5351	0.0286	0.0000	98.1360
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0833**	**0.8527**	**0.4943**	**1.0800e-003**		**0.0411**	**0.0411**		**0.0380**	**0.0380**	**0.0000**	**97.5351**	**97.5351**	**0.0286**	**0.0000**	**98.1360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8200e-003	3.3300e-003	0.0316	8.0000e-005	6.6300e-003	5.0000e-005	6.6800e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.6320	5.6320	2.8000e-004	0.0000	5.6379
Total	**1.8200e-003**	**3.3300e-003**	**0.0316**	**8.0000e-005**	**6.6300e-003**	**5.0000e-005**	**6.6800e-003**	**1.7600e-003**	**4.0000e-005**	**1.8000e-003**	**0.0000**	**5.6320**	**5.6320**	**2.8000e-004**	**0.0000**	**5.6379**

3.17 Construction Backfil and Paving - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0321	0.5369	0.6192	1.0800e-003		0.0249	0.0249		0.0249	0.0249	0.0000	97.5350	97.5350	0.0286	0.0000	98.1359
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0321**	**0.5369**	**0.6192**	**1.0800e-003**		**0.0249**	**0.0249**		**0.0249**	**0.0249**	**0.0000**	**97.5350**	**97.5350**	**0.0286**	**0.0000**	**98.1359**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8200e-003	3.3300e-003	0.0316	8.0000e-005	6.6300e-003	5.0000e-005	6.6800e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.6320	5.6320	2.8000e-004	0.0000	5.6379
Total	**1.8200e-003**	**3.3300e-003**	**0.0316**	**8.0000e-005**	**6.6300e-003**	**5.0000e-005**	**6.6800e-003**	**1.7600e-003**	**4.0000e-005**	**1.8000e-003**	**0.0000**	**5.6320**	**5.6320**	**2.8000e-004**	**0.0000**	**5.6379**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.411222	0.062718	0.156221	0.175699	0.050886	0.007831	0.019556	0.102845	0.001787	0.001576	0.006435	0.000923	0.002302

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,837.8650	5,837.8650	0.2031	0.0420	5,855.1588
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,837.8650	5,837.8650	0.2031	0.0420	5,855.1588
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.5442e+007	5,837.8650	0.2031	0.0420	5,855.1588
Total		**5,837.8650**	**0.2031**	**0.0420**	**5,855.1588**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.5442e+007	5,837.8650	0.2031	0.0420	5,855.1588
Total		**5,837.8650**	**0.2031**	**0.0420**	**5,855.1588**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

NVRRWP Alternative 1 Phased Material Hauling and Tier 3 Mitigation

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	1.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2018
Utility Company	Modesto Irrigation District				
CO2 Intensity (lb/MWhr)	833.46	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of pump station size.

Construction Phase - Used site-specific construction schedule received from RMC by email July 2014 and Project Description. 5 simultaneous crews assumed to be working starting summer 2016.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

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Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Trips and VMT - 'Used site specific information provided by RMC in construction spreadsheet. Workers were assumed for all phases. Material hauling emissions allocated to the first phase of a construction project.

Grading - Used site specific information provided by RMC in construction spreadsheet. Workers were assumed for all phases. Material hauling emissions allocated to the first phase of a construction project.

Architectural Coating - no coatings since it is a pipeline underground. Phase used as a unique phase type.

Consumer Products - No consumer products since it is an infrastructure underground pipeline.

Area Coating - No coatings since it is a pipeline underground.

Landscape Equipment - no landscaping since infrastructure project.

Energy Use - Based on pump operation provided by RMC in construction spreadsheet.

Water And Wastewater - No emissions estimated as this is just a change in location of where water is discharged. Thus only energy associated with pumping to new discharge location considered.

Solid Waste - No change in solid waste since this is only a change in location of discharge.

Construction Off-road Equipment Mitigation - Assume Tier 3 mitigation on all equipment over 50 hp.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	2.00	0.00
tblAreaCoating	Area_Nonresidential_Interior	2	3750
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	2.00	60.00
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tblConstructionPhase	PhaseEndDate	2/3/2017	12/2/2016
tblConstructionPhase	PhaseEndDate	12/20/2016	9/9/2016

tblConstructionPhase	PhaseEndDate	3/30/2018	3/31/2018
tblConstructionPhase	PhaseEndDate	6/22/2018	9/9/2016
tblConstructionPhase	PhaseEndDate	1/13/2017	12/2/2016
tblConstructionPhase	PhaseEndDate	1/11/2017	2/8/2017
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tblConstructionPhase	PhaseEndDate	10/6/2016	9/9/2016
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tblConstructionPhase	PhaseEndDate	9/13/2017	10/25/2016
tblConstructionPhase	PhaseEndDate	11/11/2016	8/19/2016
tblConstructionPhase	PhaseStartDate	12/3/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	9/10/2016	9/12/2016
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tblConstructionPhase	PhaseStartDate	8/20/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	10/26/2016	7/18/2016
tblConstructionPhase	PhaseStartDate	7/9/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	4/1/2018	6/20/2016
tblConstructionPhase	PhaseStartDate	12/31/2016	11/21/2016
tblConstructionPhase	PhaseStartDate	12/3/2016	1/2/2017
tblConstructionPhase	PhaseStartDate	7/16/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	7/15/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	9/10/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	6/3/2017	7/15/2016
tblConstructionPhase	PhaseStartDate	9/10/2016	6/20/2016
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tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	HorsePower	205.00	60.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	UsageHours	6.00	1.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
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tblTripsAndVMT	WorkerTripLength	16.80	20.00
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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	1.3460	15.0186	10.0496	0.0174	0.7229	0.6740	1.3969	0.3274	0.6217	0.9491	0.0000	1,584.9584	1,584.9584	0.3221	0.0000	1,591.7227
2017	0.1660	1.7186	1.0178	2.4500e-003	0.0300	0.0745	0.1045	7.9700e-003	0.0687	0.0767	0.0000	216.6978	216.6978	0.0586	0.0000	217.9281
2018	0.0127	0.1350	0.0720	2.3000e-004	9.6000e-004	4.9200e-003	5.8800e-003	2.6000e-004	4.5300e-003	4.7800e-003	0.0000	20.2911	20.2911	6.1100e-003	0.0000	20.4194
Total	**1.5247**	**16.8723**	**11.1394**	**0.0200**	**0.7538**	**0.7534**	**1.5072**	**0.3356**	**0.6949**	**1.0305**	**0.0000**	**1,821.9473**	**1,821.9473**	**0.3868**	**0.0000**	**1,830.0702**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.4650	7.3461	8.7033	0.0174	0.7229	0.2818	1.0046	0.3274	0.2796	0.6070	0.0000	1,584.9571	1,584.9571	0.3221	0.0000	1,591.7214
2017	0.0651	1.0300	1.2980	2.4500e-003	0.0300	0.0432	0.0732	7.9700e-003	0.0432	0.0512	0.0000	216.6976	216.6976	0.0586	0.0000	217.9279
2018	5.4600e-003	0.1015	0.1173	2.3000e-004	9.6000e-004	3.8400e-003	4.8000e-003	2.6000e-004	3.8400e-003	4.1000e-003	0.0000	20.2911	20.2911	6.1100e-003	0.0000	20.4194
Total	**0.5356**	**8.4775**	**10.1186**	**0.0200**	**0.7538**	**0.3288**	**1.0826**	**0.3356**	**0.3266**	**0.6623**	**0.0000**	**1,821.9458**	**1,821.9458**	**0.3868**	**0.0000**	**1,830.0687**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**64.88**	**49.75**	**9.16**	**0.00**	**0.00**	**56.36**	**28.17**	**0.00**	**52.99**	**35.73**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5,837.8650	5,837.8650	0.2031	0.0420	5,855.1588
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5,837.8651**	**5,837.8651**	**0.2031**	**0.0420**	**5,855.1589**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5,837.8650	5,837.8650	0.2031	0.0420	5,855.1588
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5,837.8651**	**5,837.8651**	**0.2031**	**0.0420**	**5,855.1589**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Construction Weir Site Prep	Site Preparation	6/20/2016	7/15/2016	5	20	
2	Construction Pipe Site Prep	Site Preparation	6/20/2016	7/14/2016	5	19	
3	PumpStation Construction	Site Preparation	6/20/2016	9/9/2016	5	60	
4	River Crossing 15	Site Preparation	6/20/2016	7/8/2016	5	15	
5	Water Truck	Grading	6/20/2016	3/31/2018	5	450	
6	River Crossing 60	Grading	6/20/2016	9/9/2016	5	60	
7	River Crossing 45	Trenching	6/20/2016	8/19/2016	5	45	
8	River Crossing 120	Building Construction	6/20/2016	12/2/2016	5	120	
9	River Crossing 240	Architectural Coating	6/20/2016	6/2/2017	5	240	
10	Construction Pipe Trenching	Trenching	7/15/2016	10/25/2016	5	73	
11	Construction Weir Excavation	Grading	7/18/2016	9/9/2016	5	40	
12	Construction Weir Construction	Building Construction	9/12/2016	11/18/2016	5	50	
13	PumpStation Equipment Install	Building Construction	9/12/2016	12/2/2016	5	60	
14	Construction Pipe Pipeline	Building Construction	10/26/2016	12/30/2016	5	48	
15	Construction Weir Paving	Paving	11/21/2016	12/2/2016	5	10	
16	Construction Backfil and Paving	Paving	1/2/2017	2/8/2017	5	28	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Construction Weir Site Prep	Graders	1	8.00	174	0.41
Construction Weir Site Prep	Rubber Tired Dozers	0	7.00	255	0.40

Construction Weir Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Construction Pipe Site Prep	Graders	0	8.00	174	0.41
Construction Pipe Site Prep	Rubber Tired Dozers	2	8.00	255	0.40
Construction Pipe Site Prep	Scrapers	2	8.00	361	0.48
Construction Pipe Site Prep	Signal Boards	10	8.00	6	0.82
Construction Pipe Site Prep	Tractors/Loaders/Backhoes	0	8.00	97	0.37
PumpStation Construction	Cranes	1	4.00	226	0.29
PumpStation Construction	Excavators	1	8.00	162	0.38
PumpStation Construction	Graders	0	8.00	174	0.41
PumpStation Construction	Other Construction Equipment	1	8.00	104	0.42
PumpStation Construction	Rubber Tired Dozers	1	8.00	255	0.40
PumpStation Construction	Rubber Tired Loaders	1	8.00	199	0.36
PumpStation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
River Crossing 15	Graders	0	8.00	174	0.41
River Crossing 15	Off-Highway Trucks	2	8.00	400	0.38
River Crossing 15	Rubber Tired Dozers	0	7.00	255	0.40
River Crossing 15	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Water Truck	Graders	0	6.00	174	0.41
Water Truck	Off-Highway Trucks	1	4.00	400	0.38
Water Truck	Rubber Tired Dozers	0	6.00	255	0.40
Water Truck	Tractors/Loaders/Backhoes	0	7.00	97	0.37
River Crossing 60	Graders	0	6.00	174	0.41
River Crossing 60	Other Construction Equipment	1	8.00	215	0.42
River Crossing 60	Other Construction Equipment	1	8.00	104	0.42
River Crossing 60	Rubber Tired Dozers	1	8.00	255	0.40
River Crossing 60	Rubber Tired Loaders	1	8.00	199	0.36
River Crossing 60	Tractors/Loaders/Backhoes	0	7.00	97	0.37
River Crossing 45	Bore/Drill Rigs	1	8.00	60	0.50

River Crossing 120	Cranes	0	6.00	226	0.29
River Crossing 120	Excavators	2	8.00	162	0.38
River Crossing 120	Forklifts	0	6.00	89	0.20
River Crossing 120	Generator Sets	0	8.00	84	0.74
River Crossing 120	Off-Highway Trucks	1	4.00	400	0.38
River Crossing 120	Tractors/Loaders/Backhoes	0	6.00	97	0.37
River Crossing 120	Welders	0	8.00	46	0.45
River Crossing 240	Air Compressors	0	6.00	78	0.48
River Crossing 240	Cranes	1	4.00	226	0.29
Construction Pipe Trenching	Excavators	2	8.00	162	0.38
Construction Pipe Trenching	Graders	2	8.00	174	0.41
Construction Pipe Trenching	Rubber Tired Dozers	2	8.00	255	0.40
Construction Pipe Trenching	Scrapers	4	8.00	361	0.48
Construction Pipe Trenching	Signal Boards	10	8.00	6	0.82
Construction Pipe Trenching	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction Weir Excavation	Bore/Drill Rigs	1	6.00	205	0.50
Construction Weir Excavation	Concrete/Industrial Saws	1	8.00	81	0.73
Construction Weir Excavation	Excavators	1	2.00	162	0.38
Construction Weir Excavation	Graders	0	6.00	174	0.41
Construction Weir Excavation	Rubber Tired Dozers	1	1.00	255	0.40
Construction Weir Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Construction Weir Construction	Air Compressors	1	1.00	78	0.48
Construction Weir Construction	Cranes	1	4.00	226	0.29
Construction Weir Construction	Forklifts	2	6.00	89	0.20
Construction Weir Construction	Generator Sets	0	8.00	84	0.74
Construction Weir Construction	Pumps	1	2.00	84	0.74
Construction Weir Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Construction Weir Construction	Welders	0	8.00	46	0.45

PumpStation Equipment Install	Cranes	1	4.00	226	0.29
PumpStation Equipment Install	Forklifts	0	6.00	89	0.20
PumpStation Equipment Install	Generator Sets	0	8.00	84	0.74
PumpStation Equipment Install	Rubber Tired Loaders	1	2.00	199	0.36
PumpStation Equipment Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
PumpStation Equipment Install	Welders	0	8.00	46	0.45
Construction Pipe Pipeline	Cranes	0	6.00	226	0.29
Construction Pipe Pipeline	Forklifts	0	6.00	89	0.20
Construction Pipe Pipeline	Generator Sets	0	8.00	84	0.74
Construction Pipe Pipeline	Graders	2	8.00	174	0.41
Construction Pipe Pipeline	Scrapers	4	8.00	361	0.48
Construction Pipe Pipeline	Signal Boards	10	8.00	6	0.82
Construction Pipe Pipeline	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction Pipe Pipeline	Trenchers	2	8.00	80	0.50
Construction Pipe Pipeline	Welders	0	8.00	46	0.45
Construction Weir Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Construction Weir Paving	Pavers	1	7.00	125	0.42
Construction Weir Paving	Paving Equipment	0	8.00	130	0.36
Construction Weir Paving	Rollers	1	7.00	80	0.38
Construction Weir Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Construction Backfil and Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Construction Backfil and Paving	Off-Highway Trucks	4	8.00	400	0.38
Construction Backfil and Paving	Pavers	0	6.00	125	0.42
Construction Backfil and Paving	Paving Equipment	0	8.00	130	0.36
Construction Backfil and Paving	Rollers	2	8.00	80	0.38
Construction Backfil and Paving	Signal Boards	10	8.00	6	0.82
Construction Backfil and Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Construction Weir Site Prep	2	14.00	0.00	64.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Site Prep	14	32.00	0.00	8,400.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
PumpStation Construction	5	18.00	0.00	42.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 15	2	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Water Truck	1	2.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 60	4	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 45	1	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 120	3	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 240	1	24.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Trenching	24	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Excavation	6	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Construction	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
PumpStation Equipment Install	2	18.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Pipeline	22	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Paving	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Backfil and Paving	20	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Construction Weir Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3800e-003	0.0000	5.3800e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1364	0.0734	9.0000e-005		8.3400e-003	8.3400e-003		7.6700e-003	7.6700e-003	0.0000	8.8277	8.8277	2.6600e-003	0.0000	8.8836
Total	**0.0136**	**0.1364**	**0.0734**	**9.0000e-005**	**5.3800e-003**	**8.3400e-003**	**0.0137**	**5.8000e-004**	**7.6700e-003**	**8.2500e-003**	**0.0000**	**8.8277**	**8.8277**	**2.6600e-003**	**0.0000**	**8.8836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.4000e-004	0.0125	9.7500e-003	4.0000e-005	8.2000e-004	2.0000e-004	1.0200e-003	2.3000e-004	1.8000e-004	4.1000e-004	0.0000	3.2469	3.2469	2.0000e-005	0.0000	3.2474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**1.6000e-003**	**0.0136**	**0.0210**	**6.0000e-005**	**2.8900e-003**	**2.2000e-004**	**3.1100e-003**	**7.8000e-004**	**1.9000e-004**	**9.7000e-004**	**0.0000**	**5.0801**	**5.0801**	**1.2000e-004**	**0.0000**	**5.0826**

3.2 Construction Weir Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3800e-003	0.0000	5.3800e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2700e-003	0.0465	0.0700	9.0000e-005		2.6200e-003	2.6200e-003		2.6200e-003	2.6200e-003	0.0000	8.8277	8.8277	2.6600e-003	0.0000	8.8836
Total	**2.2700e-003**	**0.0465**	**0.0700**	**9.0000e-005**	**5.3800e-003**	**2.6200e-003**	**8.0000e-003**	**5.8000e-004**	**2.6200e-003**	**3.2000e-003**	**0.0000**	**8.8277**	**8.8277**	**2.6600e-003**	**0.0000**	**8.8836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.4000e-004	0.0125	9.7500e-003	4.0000e-005	8.2000e-004	2.0000e-004	1.0200e-003	2.3000e-004	1.8000e-004	4.1000e-004	0.0000	3.2469	3.2469	2.0000e-005	0.0000	3.2474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**1.6000e-003**	**0.0136**	**0.0210**	**6.0000e-005**	**2.8900e-003**	**2.2000e-004**	**3.1100e-003**	**7.8000e-004**	**1.9000e-004**	**9.7000e-004**	**0.0000**	**5.0801**	**5.0801**	**1.2000e-004**	**0.0000**	**5.0826**

3.3 Construction Pipe Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1435	0.0000	0.1435	0.0664	0.0000	0.0664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0552	0.6320	0.4372	5.2000e-004		0.0271	0.0271		0.0250	0.0250	0.0000	46.8398	46.8398	0.0133	0.0000	47.1188
Total	**0.0552**	**0.6320**	**0.4372**	**5.2000e-004**	**0.1435**	**0.0271**	**0.1706**	**0.0664**	**0.0250**	**0.0914**	**0.0000**	**46.8398**	**46.8398**	**0.0133**	**0.0000**	**47.1188**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.1233	1.6347	1.2791	4.6600e-003	0.1078	0.0259	0.1336	0.0296	0.0238	0.0534	0.0000	426.1614	426.1614	3.0900e-003	0.0000	426.2264
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	2.5500e-003	0.0245	5.0000e-005	4.5000e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.9805	3.9805	2.1000e-004	0.0000	3.9849
Total	**0.1247**	**1.6373**	**1.3036**	**4.7100e-003**	**0.1123**	**0.0259**	**0.1382**	**0.0308**	**0.0238**	**0.0547**	**0.0000**	**430.1419**	**430.1419**	**3.3000e-003**	**0.0000**	**430.2112**

3.3 Construction Pipe Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1435	0.0000	0.1435	0.0664	0.0000	0.0664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.2482	0.2684	5.2000e-004		9.4400e-003	9.4400e-003		9.4400e-003	9.4400e-003	0.0000	46.8397	46.8397	0.0133	0.0000	47.1188
Total	**0.0165**	**0.2482**	**0.2684**	**5.2000e-004**	**0.1435**	**9.4400e-003**	**0.1529**	**0.0664**	**9.4400e-003**	**0.0759**	**0.0000**	**46.8397**	**46.8397**	**0.0133**	**0.0000**	**47.1188**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.1233	1.6347	1.2791	4.6600e-003	0.1078	0.0259	0.1336	0.0296	0.0238	0.0534	0.0000	426.1614	426.1614	3.0900e-003	0.0000	426.2264
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	2.5500e-003	0.0245	5.0000e-005	4.5000e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.9805	3.9805	2.1000e-004	0.0000	3.9849
Total	**0.1247**	**1.6373**	**1.3036**	**4.7100e-003**	**0.1123**	**0.0259**	**0.1382**	**0.0308**	**0.0238**	**0.0547**	**0.0000**	**430.1419**	**430.1419**	**3.3000e-003**	**0.0000**	**430.2112**

3.4 PumpStation Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0908	1.0171	0.6076	8.1000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	75.9900	75.9900	0.0229	0.0000	76.4713
Total	**0.0908**	**1.0171**	**0.6076**	**8.1000e-004**	**0.1807**	**0.0498**	**0.2305**	**0.0993**	**0.0458**	**0.1451**	**0.0000**	**75.9900**	**75.9900**	**0.0229**	**0.0000**	**76.4713**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2000e-004	8.1700e-003	6.4000e-003	2.0000e-005	5.4000e-004	1.3000e-004	6.7000e-004	1.5000e-004	1.2000e-004	2.7000e-004	0.0000	2.1308	2.1308	2.0000e-005	0.0000	2.1311
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**3.1700e-003**	**0.0127**	**0.0499**	**1.2000e-004**	**8.5300e-003**	**1.9000e-004**	**8.7200e-003**	**2.2700e-003**	**1.7000e-004**	**2.4500e-003**	**0.0000**	**9.2014**	**9.2014**	**3.9000e-004**	**0.0000**	**9.2095**

3.4 PumpStation Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.3923	0.4900	8.1000e-004		0.0177	0.0177		0.0177	0.0177	0.0000	75.9899	75.9899	0.0229	0.0000	76.4712
Total	**0.0198**	**0.3923**	**0.4900**	**8.1000e-004**	**0.1807**	**0.0177**	**0.1984**	**0.0993**	**0.0177**	**0.1170**	**0.0000**	**75.9899**	**75.9899**	**0.0229**	**0.0000**	**76.4712**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2000e-004	8.1700e-003	6.4000e-003	2.0000e-005	5.4000e-004	1.3000e-004	6.7000e-004	1.5000e-004	1.2000e-004	2.7000e-004	0.0000	2.1308	2.1308	2.0000e-005	0.0000	2.1311
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**3.1700e-003**	**0.0127**	**0.0499**	**1.2000e-004**	**8.5300e-003**	**1.9000e-004**	**8.7200e-003**	**2.2700e-003**	**1.7000e-004**	**2.4500e-003**	**0.0000**	**9.2014**	**9.2014**	**3.9000e-004**	**0.0000**	**9.2095**

3.5 River Crossing 15 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0141	0.1628	0.0758	2.0000e-004		6.1400e-003	6.1400e-003		5.6500e-003	5.6500e-003	0.0000	18.5997	18.5997	5.6100e-003	0.0000	18.7175
Total	**0.0141**	**0.1628**	**0.0758**	**2.0000e-004**	**0.0000**	**6.1400e-003**	**6.1400e-003**	**0.0000**	**5.6500e-003**	**5.6500e-003**	**0.0000**	**18.5997**	**18.5997**	**5.6100e-003**	**0.0000**	**18.7175**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 River Crossing 15 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8300e-003	0.0933	0.1046	2.0000e-004		3.5400e-003	3.5400e-003		3.5400e-003	3.5400e-003	0.0000	18.5997	18.5997	5.6100e-003	0.0000	18.7175
Total	**4.8300e-003**	**0.0933**	**0.1046**	**2.0000e-004**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**18.5997**	**18.5997**	**5.6100e-003**	**0.0000**	**18.7175**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Water Truck - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0330	0.3798	0.1769	4.6000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0330**	**0.3798**	**0.1769**	**4.6000e-004**	**0.0000**	**0.0143**	**0.0143**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.6 Water Truck - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.2177	0.2440	4.6000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0113**	**0.2177**	**0.2440**	**4.6000e-004**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.6 Water Truck - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0567	0.6392	0.3046	8.5000e-004		0.0237	0.0237		0.0218	0.0218	0.0000	79.2671	79.2671	0.0243	0.0000	79.7772
Total	**0.0567**	**0.6392**	**0.3046**	**8.5000e-004**	**0.0000**	**0.0237**	**0.0237**	**0.0000**	**0.0218**	**0.0218**	**0.0000**	**79.2671**	**79.2671**	**0.0243**	**0.0000**	**79.7772**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.6 Water Truck - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.4043	0.4531	8.5000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	79.2670	79.2670	0.0243	0.0000	79.7771
Total	**0.0209**	**0.4043**	**0.4531**	**8.5000e-004**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**79.2670**	**79.2670**	**0.0243**	**0.0000**	**79.7771**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.6 Water Truck - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.1346	0.0679	2.1000e-004		4.9100e-003	4.9100e-003		4.5200e-003	4.5200e-003	0.0000	19.5034	19.5034	6.0700e-003	0.0000	19.6309
Total	**0.0125**	**0.1346**	**0.0679**	**2.1000e-004**	**0.0000**	**4.9100e-003**	**4.9100e-003**	**0.0000**	**4.5200e-003**	**4.5200e-003**	**0.0000**	**19.5034**	**19.5034**	**6.0700e-003**	**0.0000**	**19.6309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.6 Water Truck - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1011	0.1133	2.1000e-004		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	19.5033	19.5033	6.0700e-003	0.0000	19.6308
Total	**5.2300e-003**	**0.1011**	**0.1133**	**2.1000e-004**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**19.5033**	**19.5033**	**6.0700e-003**	**0.0000**	**19.6308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.7 River Crossing 60 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0683	0.7562	0.4599	5.6000e-004		0.0374	0.0374		0.0344	0.0344	0.0000	53.0463	53.0463	0.0160	0.0000	53.3823
Total	**0.0683**	**0.7562**	**0.4599**	**5.6000e-004**	**0.1807**	**0.0374**	**0.2181**	**0.0993**	**0.0344**	**0.1338**	**0.0000**	**53.0463**	**53.0463**	**0.0160**	**0.0000**	**53.3823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 River Crossing 60 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.2765	0.3244	5.6000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	53.0463	53.0463	0.0160	0.0000	53.3823
Total	**0.0138**	**0.2765**	**0.3244**	**5.6000e-004**	**0.1807**	**0.0125**	**0.1932**	**0.0993**	**0.0125**	**0.1118**	**0.0000**	**53.0463**	**53.0463**	**0.0160**	**0.0000**	**53.3823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 River Crossing 45 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6600e-003	0.0455	0.0396	6.0000e-005		2.6400e-003	2.6400e-003		2.4200e-003	2.4200e-003	0.0000	5.3099	5.3099	1.6000e-003	0.0000	5.3435
Total	**3.6600e-003**	**0.0455**	**0.0396**	**6.0000e-005**		**2.6400e-003**	**2.6400e-003**		**2.4200e-003**	**2.4200e-003**	**0.0000**	**5.3099**	**5.3099**	**1.6000e-003**	**0.0000**	**5.3435**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 River Crossing 45 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4300e-003	0.0326	0.0441	6.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	5.3099	5.3099	1.6000e-003	0.0000	5.3435
Total	**1.4300e-003**	**0.0326**	**0.0441**	**6.0000e-005**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**5.3099**	**5.3099**	**1.6000e-003**	**0.0000**	**5.3435**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 River Crossing 120 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0748	0.8573	0.5630	1.0300e-003		0.0384	0.0384		0.0354	0.0354	0.0000	97.0647	97.0647	0.0293	0.0000	97.6795
Total	**0.0748**	**0.8573**	**0.5630**	**1.0300e-003**		**0.0384**	**0.0384**		**0.0354**	**0.0354**	**0.0000**	**97.0647**	**97.0647**	**0.0293**	**0.0000**	**97.6795**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 River Crossing 120 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0253	0.4889	0.6912	1.0300e-003		0.0217	0.0217		0.0217	0.0217	0.0000	97.0646	97.0646	0.0293	0.0000	97.6794
Total	**0.0253**	**0.4889**	**0.6912**	**1.0300e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**97.0646**	**97.0646**	**0.0293**	**0.0000**	**97.6794**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.10 River Crossing 240 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0252	0.2986	0.1045	2.0000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	18.6138	18.6138	5.6100e-003	0.0000	18.7317
Total	**0.0252**	**0.2986**	**0.1045**	**2.0000e-004**		**0.0136**	**0.0136**		**0.0125**	**0.0125**	**0.0000**	**18.6138**	**18.6138**	**5.6100e-003**	**0.0000**	**18.7317**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9500e-003	0.0141	0.1354	3.0000e-004	0.0249	1.8000e-004	0.0250	6.6100e-003	1.7000e-004	6.7700e-003	0.0000	21.9973	21.9973	1.1600e-003	0.0000	22.0217
Total	**7.9500e-003**	**0.0141**	**0.1354**	**3.0000e-004**	**0.0249**	**1.8000e-004**	**0.0250**	**6.6100e-003**	**1.7000e-004**	**6.7700e-003**	**0.0000**	**21.9973**	**21.9973**	**1.1600e-003**	**0.0000**	**22.0217**

3.10 River Crossing 240 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8500e-003	0.0939	0.1052	2.0000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	18.6138	18.6138	5.6100e-003	0.0000	18.7317
Total	**4.8500e-003**	**0.0939**	**0.1052**	**2.0000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**	**0.0000**	**18.6138**	**18.6138**	**5.6100e-003**	**0.0000**	**18.7317**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9500e-003	0.0141	0.1354	3.0000e-004	0.0249	1.8000e-004	0.0250	6.6100e-003	1.7000e-004	6.7700e-003	0.0000	21.9973	21.9973	1.1600e-003	0.0000	22.0217
Total	**7.9500e-003**	**0.0141**	**0.1354**	**3.0000e-004**	**0.0249**	**1.8000e-004**	**0.0250**	**6.6100e-003**	**1.7000e-004**	**6.7700e-003**	**0.0000**	**21.9973**	**21.9973**	**1.1600e-003**	**0.0000**	**22.0217**

3.10 River Crossing 240 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0178	0.2116	0.0758	1.6000e-004		9.4300e-003	9.4300e-003		8.6800e-003	8.6800e-003	0.0000	14.4007	14.4007	4.4100e-003	0.0000	14.4934
Total	**0.0178**	**0.2116**	**0.0758**	**1.6000e-004**		**9.4300e-003**	**9.4300e-003**		**8.6800e-003**	**8.6800e-003**	**0.0000**	**14.4007**	**14.4007**	**4.4100e-003**	**0.0000**	**14.4934**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3600e-003	9.8000e-003	0.0931	2.3000e-004	0.0195	1.4000e-004	0.0197	5.1900e-003	1.3000e-004	5.3200e-003	0.0000	16.5943	16.5943	8.3000e-004	0.0000	16.6117
Total	**5.3600e-003**	**9.8000e-003**	**0.0931**	**2.3000e-004**	**0.0195**	**1.4000e-004**	**0.0197**	**5.1900e-003**	**1.3000e-004**	**5.3200e-003**	**0.0000**	**16.5943**	**16.5943**	**8.3000e-004**	**0.0000**	**16.6117**

3.10 River Crossing 240 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8100e-003	0.0738	0.0827	1.6000e-004		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	14.4007	14.4007	4.4100e-003	0.0000	14.4933
Total	**3.8100e-003**	**0.0738**	**0.0827**	**1.6000e-004**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**14.4007**	**14.4007**	**4.4100e-003**	**0.0000**	**14.4933**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3600e-003	9.8000e-003	0.0931	2.3000e-004	0.0195	1.4000e-004	0.0197	5.1900e-003	1.3000e-004	5.3200e-003	0.0000	16.5943	16.5943	8.3000e-004	0.0000	16.6117
Total	**5.3600e-003**	**9.8000e-003**	**0.0931**	**2.3000e-004**	**0.0195**	**1.4000e-004**	**0.0197**	**5.1900e-003**	**1.3000e-004**	**5.3200e-003**	**0.0000**	**16.5943**	**16.5943**	**8.3000e-004**	**0.0000**	**16.6117**

3.11 Construction Pipe Trenching - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4656	5.2691	3.4466	4.3700e-003		0.2508	0.2508		0.2312	0.2312	0.0000	404.7396	404.7396	0.1189	0.0000	407.2355
Total	**0.4656**	**5.2691**	**3.4466**	**4.3700e-003**		**0.2508**	**0.2508**		**0.2312**	**0.2312**	**0.0000**	**404.7396**	**404.7396**	**0.1189**	**0.0000**	**407.2355**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	9.8100e-003	0.0942	2.1000e-004	0.0173	1.3000e-004	0.0174	4.5900e-003	1.2000e-004	4.7100e-003	0.0000	15.2934	15.2934	8.1000e-004	0.0000	15.3103
Total	**5.5300e-003**	**9.8100e-003**	**0.0942**	**2.1000e-004**	**0.0173**	**1.3000e-004**	**0.0174**	**4.5900e-003**	**1.2000e-004**	**4.7100e-003**	**0.0000**	**15.2934**	**15.2934**	**8.1000e-004**	**0.0000**	**15.3103**

3.11 Construction Pipe Trenching - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1219	2.1212	2.5865	4.3700e-003		0.0928	0.0928		0.0928	0.0928	0.0000	404.7391	404.7391	0.1189	0.0000	407.2350
Total	**0.1219**	**2.1212**	**2.5865**	**4.3700e-003**		**0.0928**	**0.0928**		**0.0928**	**0.0928**	**0.0000**	**404.7391**	**404.7391**	**0.1189**	**0.0000**	**407.2350**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	9.8100e-003	0.0942	2.1000e-004	0.0173	1.3000e-004	0.0174	4.5900e-003	1.2000e-004	4.7100e-003	0.0000	15.2934	15.2934	8.1000e-004	0.0000	15.3103
Total	**5.5300e-003**	**9.8100e-003**	**0.0942**	**2.1000e-004**	**0.0173**	**1.3000e-004**	**0.0174**	**4.5900e-003**	**1.2000e-004**	**4.7100e-003**	**0.0000**	**15.2934**	**15.2934**	**8.1000e-004**	**0.0000**	**15.3103**

3.12 Construction Weir Excavation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0334	0.3256	0.2220	4.0000e-004		0.0195	0.0195		0.0185	0.0185	0.0000	36.5032	36.5032	8.8100e-003	0.0000	36.6882
Total	**0.0334**	**0.3256**	**0.2220**	**4.0000e-004**	**0.0151**	**0.0195**	**0.0345**	**8.2800e-003**	**0.0185**	**0.0268**	**0.0000**	**36.5032**	**36.5032**	**8.8100e-003**	**0.0000**	**36.6882**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3200e-003	2.3500e-003	0.0226	5.0000e-005	4.1400e-003	3.0000e-005	4.1700e-003	1.1000e-003	3.0000e-005	1.1300e-003	0.0000	3.6662	3.6662	1.9000e-004	0.0000	3.6703
Total	**1.3200e-003**	**2.3500e-003**	**0.0226**	**5.0000e-005**	**4.1400e-003**	**3.0000e-005**	**4.1700e-003**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.6662**	**3.6662**	**1.9000e-004**	**0.0000**	**3.6703**

3.12 Construction Weir Excavation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2300e-003	0.1951	0.2497	4.0000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	36.5032	36.5032	8.8100e-003	0.0000	36.6882
Total	**9.2300e-003**	**0.1951**	**0.2497**	**4.0000e-004**	**0.0151**	**0.0110**	**0.0261**	**8.2800e-003**	**0.0110**	**0.0193**	**0.0000**	**36.5032**	**36.5032**	**8.8100e-003**	**0.0000**	**36.6882**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3200e-003	2.3500e-003	0.0226	5.0000e-005	4.1400e-003	3.0000e-005	4.1700e-003	1.1000e-003	3.0000e-005	1.1300e-003	0.0000	3.6662	3.6662	1.9000e-004	0.0000	3.6703
Total	**1.3200e-003**	**2.3500e-003**	**0.0226**	**5.0000e-005**	**4.1400e-003**	**3.0000e-005**	**4.1700e-003**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.6662**	**3.6662**	**1.9000e-004**	**0.0000**	**3.6703**

3.13 Construction Weir Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0403	0.3832	0.2373	3.4000e-004		0.0265	0.0265		0.0247	0.0247	0.0000	31.3256	31.3256	8.5300e-003	0.0000	31.5047
Total	**0.0403**	**0.3832**	**0.2373**	**3.4000e-004**		**0.0265**	**0.0265**		**0.0247**	**0.0247**	**0.0000**	**31.3256**	**31.3256**	**8.5300e-003**	**0.0000**	**31.5047**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.9400e-003	0.0282	6.0000e-005	5.1800e-003	4.0000e-005	5.2200e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.5828	4.5828	2.4000e-004	0.0000	4.5879
Total	**1.6600e-003**	**2.9400e-003**	**0.0282**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2200e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.5828**	**4.5828**	**2.4000e-004**	**0.0000**	**4.5879**

3.13 Construction Weir Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0100e-003	0.1769	0.2312	3.4000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	31.3255	31.3255	8.5300e-003	0.0000	31.5047
Total	**8.0100e-003**	**0.1769**	**0.2312**	**3.4000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**31.3255**	**31.3255**	**8.5300e-003**	**0.0000**	**31.5047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.9400e-003	0.0282	6.0000e-005	5.1800e-003	4.0000e-005	5.2200e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.5828	4.5828	2.4000e-004	0.0000	4.5879
Total	**1.6600e-003**	**2.9400e-003**	**0.0282**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2200e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.5828**	**4.5828**	**2.4000e-004**	**0.0000**	**4.5879**

3.14 PumpStation Equipment Install - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1765	0.0585	1.3000e-004		7.4600e-003	7.4600e-003		6.8600e-003	6.8600e-003	0.0000	12.3072	12.3072	3.7100e-003	0.0000	12.3851
Total	**0.0145**	**0.1765**	**0.0585**	**1.3000e-004**		**7.4600e-003**	**7.4600e-003**		**6.8600e-003**	**6.8600e-003**	**0.0000**	**12.3072**	**12.3072**	**3.7100e-003**	**0.0000**	**12.3851**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**2.5500e-003**	**4.5400e-003**	**0.0435**	**1.0000e-004**	**7.9900e-003**	**6.0000e-005**	**8.0500e-003**	**2.1200e-003**	**5.0000e-005**	**2.1800e-003**	**0.0000**	**7.0706**	**7.0706**	**3.7000e-004**	**0.0000**	**7.0784**

3.14 PumpStation Equipment Install - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2200e-003	0.0622	0.0697	1.3000e-004		2.3600e-003	2.3600e-003		2.3600e-003	2.3600e-003	0.0000	12.3072	12.3072	3.7100e-003	0.0000	12.3851
Total	**3.2200e-003**	**0.0622**	**0.0697**	**1.3000e-004**		**2.3600e-003**	**2.3600e-003**		**2.3600e-003**	**2.3600e-003**	**0.0000**	**12.3072**	**12.3072**	**3.7100e-003**	**0.0000**	**12.3851**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**2.5500e-003**	**4.5400e-003**	**0.0435**	**1.0000e-004**	**7.9900e-003**	**6.0000e-005**	**8.0500e-003**	**2.1200e-003**	**5.0000e-005**	**2.1800e-003**	**0.0000**	**7.0706**	**7.0706**	**3.7000e-004**	**0.0000**	**7.0784**

3.15 Construction Pipe Pipeline - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2548	2.8199	1.7335	2.3600e-003		0.1418	0.1418		0.1307	0.1307	0.0000	217.6375	217.6375	0.0635	0.0000	218.9715
Total	**0.2548**	**2.8199**	**1.7335**	**2.3600e-003**		**0.1418**	**0.1418**		**0.1307**	**0.1307**	**0.0000**	**217.6375**	**217.6375**	**0.0635**	**0.0000**	**218.9715**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6300e-003	6.4500e-003	0.0619	1.4000e-004	0.0114	8.0000e-005	0.0115	3.0200e-003	8.0000e-005	3.1000e-003	0.0000	10.0559	10.0559	5.3000e-004	0.0000	10.0671
Total	**3.6300e-003**	**6.4500e-003**	**0.0619**	**1.4000e-004**	**0.0114**	**8.0000e-005**	**0.0115**	**3.0200e-003**	**8.0000e-005**	**3.1000e-003**	**0.0000**	**10.0559**	**10.0559**	**5.3000e-004**	**0.0000**	**10.0671**

3.15 Construction Pipe Pipeline - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0676	1.1663	1.4087	2.3600e-003		0.0541	0.0541		0.0541	0.0541	0.0000	217.6373	217.6373	0.0635	0.0000	218.9712
Total	**0.0676**	**1.1663**	**1.4087**	**2.3600e-003**		**0.0541**	**0.0541**		**0.0541**	**0.0541**	**0.0000**	**217.6373**	**217.6373**	**0.0635**	**0.0000**	**218.9712**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6300e-003	6.4500e-003	0.0619	1.4000e-004	0.0114	8.0000e-005	0.0115	3.0200e-003	8.0000e-005	3.1000e-003	0.0000	10.0559	10.0559	5.3000e-004	0.0000	10.0671
Total	**3.6300e-003**	**6.4500e-003**	**0.0619**	**1.4000e-004**	**0.0114**	**8.0000e-005**	**0.0115**	**3.0200e-003**	**8.0000e-005**	**3.1000e-003**	**0.0000**	**10.0559**	**10.0559**	**5.3000e-004**	**0.0000**	**10.0671**

3.16 Construction Weir Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6000e-003	0.0531	0.0365	6.0000e-005		3.3000e-003	3.3000e-003		3.0600e-003	3.0600e-003	0.0000	4.9151	4.9151	1.3500e-003	0.0000	4.9433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.6000e-003**	**0.0531**	**0.0365**	**6.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0600e-003**	**3.0600e-003**	**0.0000**	**4.9151**	**4.9151**	**1.3500e-003**	**0.0000**	**4.9433**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	5.9000e-004	5.6400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9166	0.9166	5.0000e-005	0.0000	0.9176
Total	**3.3000e-004**	**5.9000e-004**	**5.6400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9166**	**0.9166**	**5.0000e-005**	**0.0000**	**0.9176**

3.16 Construction Weir Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9800e-003	0.0290	0.0385	6.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	4.9151	4.9151	1.3500e-003	0.0000	4.9433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9800e-003**	**0.0290**	**0.0385**	**6.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.6600e-003**	**1.6600e-003**	**0.0000**	**4.9151**	**4.9151**	**1.3500e-003**	**0.0000**	**4.9433**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	5.9000e-004	5.6400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9166	0.9166	5.0000e-005	0.0000	0.9176
Total	**3.3000e-004**	**5.9000e-004**	**5.6400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9166**	**0.9166**	**5.0000e-005**	**0.0000**	**0.9176**

3.17 Construction Backfil and Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0833	0.8527	0.4943	1.0800e-003		0.0411	0.0411		0.0380	0.0380	0.0000	97.5351	97.5351	0.0286	0.0000	98.1360
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0833**	**0.8527**	**0.4943**	**1.0800e-003**		**0.0411**	**0.0411**		**0.0380**	**0.0380**	**0.0000**	**97.5351**	**97.5351**	**0.0286**	**0.0000**	**98.1360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8200e-003	3.3300e-003	0.0316	8.0000e-005	6.6300e-003	5.0000e-005	6.6800e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.6320	5.6320	2.8000e-004	0.0000	5.6379
Total	**1.8200e-003**	**3.3300e-003**	**0.0316**	**8.0000e-005**	**6.6300e-003**	**5.0000e-005**	**6.6800e-003**	**1.7600e-003**	**4.0000e-005**	**1.8000e-003**	**0.0000**	**5.6320**	**5.6320**	**2.8000e-004**	**0.0000**	**5.6379**

3.17 Construction Backfil and Paving - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0321	0.5369	0.6192	1.0800e-003		0.0249	0.0249		0.0249	0.0249	0.0000	97.5350	97.5350	0.0286	0.0000	98.1359
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0321**	**0.5369**	**0.6192**	**1.0800e-003**		**0.0249**	**0.0249**		**0.0249**	**0.0249**	**0.0000**	**97.5350**	**97.5350**	**0.0286**	**0.0000**	**98.1359**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8200e-003	3.3300e-003	0.0316	8.0000e-005	6.6300e-003	5.0000e-005	6.6800e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.6320	5.6320	2.8000e-004	0.0000	5.6379
Total	**1.8200e-003**	**3.3300e-003**	**0.0316**	**8.0000e-005**	**6.6300e-003**	**5.0000e-005**	**6.6800e-003**	**1.7600e-003**	**4.0000e-005**	**1.8000e-003**	**0.0000**	**5.6320**	**5.6320**	**2.8000e-004**	**0.0000**	**5.6379**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.411222	0.062718	0.156221	0.175699	0.050886	0.007831	0.019556	0.102845	0.001787	0.001576	0.006435	0.000923	0.002302

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,837.8650	5,837.8650	0.2031	0.0420	5,855.1588
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,837.8650	5,837.8650	0.2031	0.0420	5,855.1588
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.5442e+007	5,837.8650	0.2031	0.0420	5,855.1588
Total		**5,837.8650**	**0.2031**	**0.0420**	**5,855.1588**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.5442e+007	5,837.8650	0.2031	0.0420	5,855.1588
Total		**5,837.8650**	**0.2031**	**0.0420**	**5,855.1588**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

NVRRWP Alternative 2 Unphased Material Hauling and Tier 3 Mitigation

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	1.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2018
Utility Company	Modesto Irrigation District				
CO2 Intensity (lb/MWhr)	833.46	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of pump station size.

Construction Phase - Used site-specific construction schedule received from RMC by email July 2014 and Project Description. 5 simultaneous crews assumed to be working starting summer 2016.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

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Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Trips and VMT - Used site specific information provided by RMC in construction spreadsheet. Workers were assumed for all phases. Material hauling emissions allocated to the first phase of a construction project.

Grading - 'Used site specific information provided by RMC in construction spreadsheet. Workers were assumed for all phases. Material hauling emissions allocated to the first phase of a construction project.

Architectural Coating - no coatings since it is a pipeline underground. Phase used as a unique phase type.

Consumer Products - No consumer products since it is an infrastructure underground pipeline.

Area Coating - No coatings since it is a pipeline underground.

Landscape Equipment - no landscaping since infrastructure project.

Energy Use - Based on pump operation provided by RMC in construction spreadsheet.

Water And Wastewater - No emissions estimated as this is just a change in location of where water is discharged. Thus only energy associated with pumping to new discharge location considered.

Solid Waste - No change in solid waste since this is only a change in location of discharge.

Construction Off-road Equipment Mitigation - Assume Tier 3 mitigation on all equipment over 50 hp.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	2.00	0.00
tblAreaCoating	Area_Nonresidential_Interior	2	3750
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	2.00	450.00
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tblConstructionPhase	NumDays	5.00	28.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	20.00

tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	1.00	19.00
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tblConstructionPhase	NumDays	1.00	60.00
tblConstructionPhase	NumDays	1.00	15.00
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tblConstructionPhase	PhaseEndDate	10/19/2018	5/4/2018
tblConstructionPhase	PhaseEndDate	2/3/2017	12/2/2016
tblConstructionPhase	PhaseEndDate	2/10/2017	12/2/2016
tblConstructionPhase	PhaseEndDate	2/24/2017	1/13/2017
tblConstructionPhase	PhaseEndDate	4/4/2017	1/31/2017
tblConstructionPhase	PhaseEndDate	4/19/2017	4/28/2017
tblConstructionPhase	PhaseEndDate	1/19/2018	11/17/2017
tblConstructionPhase	PhaseEndDate	1/6/2017	9/9/2016
tblConstructionPhase	PhaseEndDate	9/15/2017	8/25/2017
tblConstructionPhase	PhaseEndDate	7/13/2018	3/31/2018
tblConstructionPhase	PhaseEndDate	6/22/2018	9/9/2016
tblConstructionPhase	PhaseEndDate	6/1/2018	3/31/2018
tblConstructionPhase	PhaseEndDate	2/14/2017	12/2/2016
tblConstructionPhase	PhaseEndDate	3/29/2017	2/8/2017
tblConstructionPhase	PhaseEndDate	12/30/2016	12/23/2016
tblConstructionPhase	PhaseEndDate	8/11/2016	7/14/2016
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tblConstructionPhase	PhaseEndDate	10/6/2016	9/9/2016
tblConstructionPhase	PhaseEndDate	9/30/2016	7/8/2016
tblConstructionPhase	PhaseEndDate	11/11/2016	10/21/2016
tblConstructionPhase	PhaseEndDate	10/2/2017	11/11/2016

tblConstructionPhase	PhaseEndDate	10/27/2017	8/4/2017
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tblConstructionPhase	PhaseStartDate	11/18/2017	6/5/2017
tblConstructionPhase	PhaseStartDate	8/20/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	9/10/2016	9/12/2016
tblConstructionPhase	PhaseStartDate	11/19/2016	9/12/2016
tblConstructionPhase	PhaseStartDate	12/3/2016	10/24/2016
tblConstructionPhase	PhaseStartDate	1/14/2017	11/14/2016
tblConstructionPhase	PhaseStartDate	2/9/2017	2/20/2017
tblConstructionPhase	PhaseStartDate	8/5/2017	6/5/2017
tblConstructionPhase	PhaseStartDate	11/12/2016	7/18/2016
tblConstructionPhase	PhaseStartDate	12/24/2016	12/26/2016
tblConstructionPhase	PhaseStartDate	6/24/2017	6/5/2017
tblConstructionPhase	PhaseStartDate	10/22/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	4/1/2018	6/20/2016
tblConstructionPhase	PhaseStartDate	9/10/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	2/1/2017	11/21/2016
tblConstructionPhase	PhaseStartDate	2/18/2017	1/2/2017
tblConstructionPhase	PhaseStartDate	4/29/2017	5/1/2017
tblConstructionPhase	PhaseStartDate	12/3/2016	12/5/2016
tblConstructionPhase	PhaseStartDate	7/16/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	5/13/2017	6/5/2017
tblConstructionPhase	PhaseStartDate	7/15/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	9/10/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	7/9/2016	6/20/2016
tblConstructionPhase	PhaseStartDate	6/3/2017	7/15/2016
tblConstructionPhase	PhaseStartDate	8/26/2017	6/5/2017

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tblEnergyUse	NT24E	0.00	17,898,000.00
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tblOffRoadEquipment	UsageHours	8.00	7.00
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tblTripsAndVMT	WorkerTripNumber	13.00	18.00

tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	18.00
tblTripsAndVMT	WorkerTripNumber	3.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	2.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	1.8186	20.7387	13.9494	0.0287	1.0519	0.8455	1.8974	0.4456	0.7796	1.2252	0.0000	2,623.7834	2,623.7834	0.4082	0.0000	2,632.3563
2017	0.5930	6.2527	3.9764	7.7600e-003	0.2726	0.2935	0.5661	0.1280	0.2710	0.3990	0.0000	694.2723	694.2723	0.1905	0.0000	698.2732
2018	0.0418	0.4274	0.2671	7.7000e-004	0.0179	0.0165	0.0344	4.7600e-003	0.0151	0.0199	0.0000	65.2653	65.2653	0.0165	0.0000	65.6108
Total	**2.4534**	**27.4188**	**18.1929**	**0.0372**	**1.3423**	**1.1555**	**2.4978**	**0.5784**	**1.0656**	**1.6440**	**0.0000**	**3,383.3210**	**3,383.3210**	**0.6152**	**0.0000**	**3,396.2402**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.7593	11.5968	12.7548	0.0287	1.0519	0.3848	1.4366	0.4456	0.3789	0.8246	0.0000	2,623.7818	2,623.7818	0.4082	0.0000	2,632.3547
2017	0.1990	3.3711	4.3968	7.7600e-003	0.2726	0.1505	0.4231	0.1280	0.1505	0.2785	0.0000	694.2715	694.2715	0.1905	0.0000	698.2724
2018	0.0178	0.2705	0.3698	7.7000e-004	0.0179	0.0101	0.0280	4.7600e-003	0.0101	0.0148	0.0000	65.2653	65.2653	0.0165	0.0000	65.6108
Total	**0.9761**	**15.2384**	**17.5215**	**0.0372**	**1.3423**	**0.5454**	**1.8877**	**0.5784**	**0.5395**	**1.1179**	**0.0000**	**3,383.3186**	**3,383.3186**	**0.6152**	**0.0000**	**3,396.2378**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**60.22**	**44.42**	**3.69**	**0.00**	**0.00**	**52.80**	**24.43**	**0.00**	**49.38**	**32.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6,766.3585	6,766.3585	0.2354	0.0487	6,786.4029
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6,766.3586**	**6,766.3586**	**0.2354**	**0.0487**	**6,786.4029**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6,766.3585	6,766.3585	0.2354	0.0487	6,786.4029
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6,766.3586**	**6,766.3586**	**0.2354**	**0.0487**	**6,786.4029**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Construction Weir Site Prep	Site Preparation	6/20/2016	7/15/2016	5	20	
2	Construction Pipe Site Prep	Site Preparation	6/20/2016	7/14/2016	5	19	
3	PumpStation Construction	Site Preparation	6/20/2016	9/9/2016	5	60	

4	River Crossing 15	Site Preparation	6/20/2016	7/8/2016	5	15
5	T PumpStation Construction	Site Preparation	6/20/2016	10/21/2016	5	90
6	Water Truck	Grading	6/20/2016	3/31/2018	5	450
7	River Crossing 60	Grading	6/20/2016	9/9/2016	5	60
8	T Water Truck	Grading	6/20/2016	3/31/2018	5	450
9	River Crossing 45	Trenching	6/20/2016	8/19/2016	5	45
10	River Crossing 120	Building Construction	6/20/2016	12/2/2016	5	120
11	River Crossing 240	Architectural Coating	6/20/2016	6/2/2017	5	240
12	Construction Pipe Trenching	Trenching	7/15/2016	11/11/2016	5	86
13	Construction Weir Excavation	Grading	7/18/2016	9/9/2016	5	40
14	Construction Weir Construction	Building Construction	9/12/2016	11/18/2016	5	50
15	PumpStation Equipment Install	Building Construction	9/12/2016	12/2/2016	5	60
16	T PumpStation Equipment Install	Building Construction	10/24/2016	1/13/2017	5	60
17	Construction Pipe Pipeline	Building Construction	11/14/2016	1/31/2017	5	57
18	Construction Weir Paving	Paving	11/21/2016	12/2/2016	5	10
19	T Construction Weir Site Prep	Site Preparation	12/5/2016	12/23/2016	5	20
20	T Construction Weir Excavation	Grading	12/26/2016	2/17/2017	5	40
21	Construction Backfil and Paving	Paving	1/2/2017	2/8/2017	5	28
22	T Construction Weir Construction	Building Construction	2/20/2017	4/28/2017	5	50
23	T Construction Weir Paving	Paving	5/1/2017	5/12/2017	5	10
24	T River Crossing 15	Site Preparation	6/5/2017	6/23/2017	5	15
25	T River Crossing 60	Grading	6/5/2017	8/25/2017	5	60
26	T River Crossing 45	Trenching	6/5/2017	8/4/2017	5	45
27	T River Crossing 120	Building Construction	6/5/2017	11/17/2017	5	120
28	T River Crossing 240	Architectural Coating	6/5/2017	5/4/2018	5	240

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Construction Weir Site Prep	Graders	1	8.00	174	0.41
Construction Weir Site Prep	Rubber Tired Dozers	0	7.00	255	0.40
Construction Weir Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Construction Pipe Site Prep	Graders	0	8.00	174	0.41
Construction Pipe Site Prep	Rubber Tired Dozers	2	8.00	255	0.40
Construction Pipe Site Prep	Scrapers	2	8.00	361	0.48
Construction Pipe Site Prep	Signal Boards	10	8.00	6	0.82
Construction Pipe Site Prep	Tractors/Loaders/Backhoes	0	8.00	97	0.37
PumpStation Construction	Cranes	1	4.00	226	0.29
PumpStation Construction	Excavators	1	8.00	162	0.38
PumpStation Construction	Graders	0	8.00	174	0.41
PumpStation Construction	Other Construction Equipment	1	8.00	104	0.42
PumpStation Construction	Rubber Tired Dozers	1	8.00	255	0.40
PumpStation Construction	Rubber Tired Loaders	1	8.00	199	0.36
PumpStation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
River Crossing 15	Graders	0	8.00	174	0.41
River Crossing 15	Off-Highway Trucks	2	8.00	400	0.38
River Crossing 15	Rubber Tired Dozers	0	7.00	255	0.40
River Crossing 15	Tractors/Loaders/Backhoes	0	8.00	97	0.37
T PumpStation Construction	Cranes	1	4.00	226	0.29
T PumpStation Construction	Excavators	2	8.00	162	0.38
T PumpStation Construction	Graders	0	8.00	174	0.41
T PumpStation Construction	Off-Highway Trucks	4	2.70	400	0.38

T PumpStation Construction	Other Construction Equipment	1	8.00	104	0.42
T PumpStation Construction	Rubber Tired Dozers	1	2.70	255	0.40
T PumpStation Construction	Rubber Tired Loaders	1	8.00	199	0.36
T PumpStation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Water Truck	Graders	0	6.00	174	0.41
Water Truck	Off-Highway Trucks	1	4.00	400	0.38
Water Truck	Rubber Tired Dozers	0	6.00	255	0.40
Water Truck	Tractors/Loaders/Backhoes	0	7.00	97	0.37
River Crossing 60	Graders	0	6.00	174	0.41
River Crossing 60	Other Construction Equipment	1	8.00	215	0.42
River Crossing 60	Other Construction Equipment	1	8.00	104	0.42
River Crossing 60	Rubber Tired Dozers	1	8.00	255	0.40
River Crossing 60	Rubber Tired Loaders	1	8.00	199	0.36
River Crossing 60	Tractors/Loaders/Backhoes	0	7.00	97	0.37
T Water Truck	Graders	0	6.00	174	0.41
T Water Truck	Off-Highway Trucks	1	4.00	400	0.38
T Water Truck	Rubber Tired Dozers	0	6.00	255	0.40
T Water Truck	Tractors/Loaders/Backhoes	0	7.00	97	0.37
River Crossing 45	Bore/Drill Rigs	1	8.00	60	0.50
River Crossing 120	Cranes	0	6.00	226	0.29
River Crossing 120	Excavators	2	8.00	162	0.38
River Crossing 120	Forklifts	0	6.00	89	0.20
River Crossing 120	Generator Sets	0	8.00	84	0.74
River Crossing 120	Off-Highway Trucks	1	4.00	400	0.38
River Crossing 120	Tractors/Loaders/Backhoes	0	6.00	97	0.37
River Crossing 120	Welders	0	8.00	46	0.45
River Crossing 240	Air Compressors	0	6.00	78	0.48
River Crossing 240	Cranes	1	4.00	226	0.29

Construction Pipe Trenching	Excavators	2	8.00	162	0.38
Construction Pipe Trenching	Graders	2	8.00	174	0.41
Construction Pipe Trenching	Rubber Tired Dozers	2	8.00	255	0.40
Construction Pipe Trenching	Scrapers	4	8.00	361	0.48
Construction Pipe Trenching	Signal Boards	10	8.00	6	0.82
Construction Pipe Trenching	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction Weir Excavation	Bore/Drill Rigs	1	6.00	205	0.50
Construction Weir Excavation	Concrete/Industrial Saws	1	8.00	81	0.73
Construction Weir Excavation	Excavators	1	2.00	162	0.38
Construction Weir Excavation	Graders	0	6.00	174	0.41
Construction Weir Excavation	Rubber Tired Dozers	1	1.00	255	0.40
Construction Weir Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Construction Weir Construction	Air Compressors	1	1.00	78	0.48
Construction Weir Construction	Cranes	1	4.00	226	0.29
Construction Weir Construction	Forklifts	2	6.00	89	0.20
Construction Weir Construction	Generator Sets	0	8.00	84	0.74
Construction Weir Construction	Pumps	1	2.00	84	0.74
Construction Weir Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Construction Weir Construction	Welders	0	8.00	46	0.45
PumpStation Equipment Install	Cranes	1	4.00	226	0.29
PumpStation Equipment Install	Forklifts	0	6.00	89	0.20
PumpStation Equipment Install	Generator Sets	0	8.00	84	0.74
PumpStation Equipment Install	Rubber Tired Loaders	1	2.00	199	0.36
PumpStation Equipment Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
PumpStation Equipment Install	Welders	0	8.00	46	0.45
T PumpStation Equipment Install	Cranes	1	4.00	226	0.29
T PumpStation Equipment Install	Forklifts	0	6.00	89	0.20
T PumpStation Equipment Install	Generator Sets	0	8.00	84	0.74

T PumpStation Equipment Install	Rubber Tired Loaders	1	2.00	199	0.36
T PumpStation Equipment Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
T PumpStation Equipment Install	Welders	0	8.00	46	0.45
Construction Pipe Pipeline	Cranes	0	6.00	226	0.29
Construction Pipe Pipeline	Forklifts	0	6.00	89	0.20
Construction Pipe Pipeline	Generator Sets	0	8.00	84	0.74
Construction Pipe Pipeline	Graders	2	8.00	174	0.41
Construction Pipe Pipeline	Scrapers	4	8.00	361	0.48
Construction Pipe Pipeline	Signal Boards	10	8.00	6	0.82
Construction Pipe Pipeline	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction Pipe Pipeline	Trenchers	2	8.00	80	0.50
Construction Pipe Pipeline	Welders	0	8.00	46	0.45
Construction Weir Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Construction Weir Paving	Pavers	1	7.00	125	0.42
Construction Weir Paving	Paving Equipment	0	8.00	130	0.36
Construction Weir Paving	Rollers	1	7.00	80	0.38
Construction Weir Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
T Construction Weir Site Prep	Graders	1	8.00	174	0.41
T Construction Weir Site Prep	Rubber Tired Dozers	0	7.00	255	0.40
T Construction Weir Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37
T Construction Weir Excavation	Bore/Drill Rigs	1	6.00	205	0.50
T Construction Weir Excavation	Concrete/Industrial Saws	1	8.00	81	0.73
T Construction Weir Excavation	Excavators	1	2.00	162	0.38
T Construction Weir Excavation	Graders	0	6.00	174	0.41
T Construction Weir Excavation	Rubber Tired Dozers	1	1.00	255	0.40
T Construction Weir Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Construction Backfil and Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Construction Backfil and Paving	Off-Highway Trucks	4	8.00	400	0.38

Construction Backfil and Paving	Pavers	0	6.00	125	0.42
Construction Backfil and Paving	Paving Equipment	0	8.00	130	0.36
Construction Backfil and Paving	Rollers	2	8.00	80	0.38
Construction Backfil and Paving	Signal Boards	10	8.00	6	0.82
Construction Backfil and Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37
T Construction Weir Construction	Air Compressors	1	1.00	78	0.48
T Construction Weir Construction	Cranes	1	4.00	226	0.29
T Construction Weir Construction	Forklifts	2	6.00	89	0.20
T Construction Weir Construction	Generator Sets	0	8.00	84	0.74
T Construction Weir Construction	Pumps	1	2.00	84	0.74
T Construction Weir Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
T Construction Weir Construction	Welders	0	8.00	46	0.45
T Construction Weir Paving	Cement and Mortar Mixers	4	6.00	9	0.56
T Construction Weir Paving	Pavers	1	7.00	125	0.42
T Construction Weir Paving	Paving Equipment	0	8.00	130	0.36
T Construction Weir Paving	Rollers	1	7.00	80	0.38
T Construction Weir Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
T River Crossing 15	Graders	0	8.00	174	0.41
T River Crossing 15	Off-Highway Trucks	2	8.00	400	0.38
T River Crossing 15	Rubber Tired Dozers	0	7.00	255	0.40
T River Crossing 15	Tractors/Loaders/Backhoes	0	8.00	97	0.37
T River Crossing 60	Graders	0	6.00	174	0.41
T River Crossing 60	Other Construction Equipment	1	8.00	215	0.42
T River Crossing 60	Other Construction Equipment	1	8.00	104	0.42
T River Crossing 60	Rubber Tired Dozers	1	8.00	255	0.40
T River Crossing 60	Rubber Tired Loaders	1	8.00	199	0.36
T River Crossing 60	Tractors/Loaders/Backhoes	0	7.00	97	0.37
T River Crossing 45	Bore/Drill Rigs	1	8.00	60	0.50

T River Crossing 120	Cranes	0	6.00	226	0.29
T River Crossing 120	Excavators	2	8.00	162	0.38
T River Crossing 120	Forklifts	0	6.00	89	0.20
T River Crossing 120	Generator Sets	0	8.00	84	0.74
T River Crossing 120	Off-Highway Trucks	1	4.00	400	0.38
T River Crossing 120	Tractors/Loaders/Backhoes	0	6.00	97	0.37
T River Crossing 120	Welders	0	8.00	46	0.45
T River Crossing 240	Air Compressors	0	6.00	78	0.48
T River Crossing 240	Cranes	1	4.00	226	0.29

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Construction Weir Site Prep	2	14.00	0.00	128.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Site Prep	14	32.00	0.00	22,996.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
PumpStation Construction	5	18.00	0.00	60.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 15	2	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T PumpStation Construction	10	18.00	0.00	86.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Water Truck	1	2.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 60	4	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Water Truck	1	2.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 45	1	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 120	3	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 240	1	24.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Trenching	24	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Excavation	6	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Construction	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
PumpStation Equipment Install	2	18.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT

T PumpStation Equipment Install	2	18.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Pipeline	22	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Paving	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Construction Weir Site Prep	2	14.00	0.00	128.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Construction Weir Excavation	6	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Backfil and Paving	20	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Construction Weir Construction	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Construction Weir Paving	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 15	2	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 60	4	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 45	1	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 120	3	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 240	1	24.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Construction Weir Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3800e-003	0.0000	5.3800e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1364	0.0734	9.0000e-005		8.3400e-003	8.3400e-003		7.6700e-003	7.6700e-003	0.0000	8.8277	8.8277	2.6600e-003	0.0000	8.8836
Total	**0.0136**	**0.1364**	**0.0734**	**9.0000e-005**	**5.3800e-003**	**8.3400e-003**	**0.0137**	**5.8000e-004**	**7.6700e-003**	**8.2500e-003**	**0.0000**	**8.8277**	**8.8277**	**2.6600e-003**	**0.0000**	**8.8836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8800e-003	0.0249	0.0195	7.0000e-005	1.6400e-003	3.9000e-004	2.0400e-003	4.5000e-004	3.6000e-004	8.1000e-004	0.0000	6.4939	6.4939	5.0000e-005	0.0000	6.4949
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**2.5400e-003**	**0.0261**	**0.0308**	**9.0000e-005**	**3.7100e-003**	**4.1000e-004**	**4.1300e-003**	**1.0000e-003**	**3.7000e-004**	**1.3700e-003**	**0.0000**	**8.3270**	**8.3270**	**1.5000e-004**	**0.0000**	**8.3300**

3.2 Construction Weir Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3800e-003	0.0000	5.3800e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2700e-003	0.0465	0.0700	9.0000e-005		2.6200e-003	2.6200e-003		2.6200e-003	2.6200e-003	0.0000	8.8277	8.8277	2.6600e-003	0.0000	8.8836
Total	**2.2700e-003**	**0.0465**	**0.0700**	**9.0000e-005**	**5.3800e-003**	**2.6200e-003**	**8.0000e-003**	**5.8000e-004**	**2.6200e-003**	**3.2000e-003**	**0.0000**	**8.8277**	**8.8277**	**2.6600e-003**	**0.0000**	**8.8836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8800e-003	0.0249	0.0195	7.0000e-005	1.6400e-003	3.9000e-004	2.0400e-003	4.5000e-004	3.6000e-004	8.1000e-004	0.0000	6.4939	6.4939	5.0000e-005	0.0000	6.4949
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**2.5400e-003**	**0.0261**	**0.0308**	**9.0000e-005**	**3.7100e-003**	**4.1000e-004**	**4.1300e-003**	**1.0000e-003**	**3.7000e-004**	**1.3700e-003**	**0.0000**	**8.3270**	**8.3270**	**1.5000e-004**	**0.0000**	**8.3300**

3.3 Construction Pipe Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1481	0.0000	0.1481	0.0671	0.0000	0.0671	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0552	0.6320	0.4372	5.2000e-004		0.0271	0.0271		0.0250	0.0250	0.0000	46.8398	46.8398	0.0133	0.0000	47.1188
Total	**0.0552**	**0.6320**	**0.4372**	**5.2000e-004**	**0.1481**	**0.0271**	**0.1752**	**0.0671**	**0.0250**	**0.0921**	**0.0000**	**46.8398**	**46.8398**	**0.0133**	**0.0000**	**47.1188**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.3375	4.4753	3.5017	0.0128	0.2950	0.0708	0.3658	0.0811	0.0652	0.1462	0.0000	1,166.6675	1,166.6675	8.4700e-003	0.0000	1,166.8454
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	2.5500e-003	0.0245	5.0000e-005	4.5000e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.9805	3.9805	2.1000e-004	0.0000	3.9849
Total	**0.3389**	**4.4778**	**3.5262**	**0.0128**	**0.2995**	**0.0709**	**0.3703**	**0.0823**	**0.0652**	**0.1475**	**0.0000**	**1,170.6480**	**1,170.6480**	**8.6800e-003**	**0.0000**	**1,170.8302**

3.3 Construction Pipe Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1481	0.0000	0.1481	0.0671	0.0000	0.0671	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.2482	0.2684	5.2000e-004		9.4400e-003	9.4400e-003		9.4400e-003	9.4400e-003	0.0000	46.8397	46.8397	0.0133	0.0000	47.1188
Total	**0.0165**	**0.2482**	**0.2684**	**5.2000e-004**	**0.1481**	**9.4400e-003**	**0.1576**	**0.0671**	**9.4400e-003**	**0.0766**	**0.0000**	**46.8397**	**46.8397**	**0.0133**	**0.0000**	**47.1188**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.3375	4.4753	3.5017	0.0128	0.2950	0.0708	0.3658	0.0811	0.0652	0.1462	0.0000	1,166.6675	1,166.6675	8.4700e-003	0.0000	1,166.8454
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	2.5500e-003	0.0245	5.0000e-005	4.5000e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.9805	3.9805	2.1000e-004	0.0000	3.9849
Total	**0.3389**	**4.4778**	**3.5262**	**0.0128**	**0.2995**	**0.0709**	**0.3703**	**0.0823**	**0.0652**	**0.1475**	**0.0000**	**1,170.6480**	**1,170.6480**	**8.6800e-003**	**0.0000**	**1,170.8302**

3.4 PumpStation Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0908	1.0171	0.6076	8.1000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	75.9900	75.9900	0.0229	0.0000	76.4713
Total	**0.0908**	**1.0171**	**0.6076**	**8.1000e-004**	**0.1807**	**0.0498**	**0.2305**	**0.0993**	**0.0458**	**0.1451**	**0.0000**	**75.9900**	**75.9900**	**0.0229**	**0.0000**	**76.4713**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.8000e-004	0.0117	9.1400e-003	3.0000e-005	7.7000e-004	1.8000e-004	9.5000e-004	2.1000e-004	1.7000e-004	3.8000e-004	0.0000	3.0440	3.0440	2.0000e-005	0.0000	3.0445
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**3.4300e-003**	**0.0162**	**0.0527**	**1.3000e-004**	**8.7600e-003**	**2.4000e-004**	**9.0000e-003**	**2.3300e-003**	**2.2000e-004**	**2.5600e-003**	**0.0000**	**10.1146**	**10.1146**	**3.9000e-004**	**0.0000**	**10.1229**

3.4 PumpStation Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.3923	0.4900	8.1000e-004		0.0177	0.0177		0.0177	0.0177	0.0000	75.9899	75.9899	0.0229	0.0000	76.4712
Total	**0.0198**	**0.3923**	**0.4900**	**8.1000e-004**	**0.1807**	**0.0177**	**0.1984**	**0.0993**	**0.0177**	**0.1170**	**0.0000**	**75.9899**	**75.9899**	**0.0229**	**0.0000**	**76.4712**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.8000e-004	0.0117	9.1400e-003	3.0000e-005	7.7000e-004	1.8000e-004	9.5000e-004	2.1000e-004	1.7000e-004	3.8000e-004	0.0000	3.0440	3.0440	2.0000e-005	0.0000	3.0445
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**3.4300e-003**	**0.0162**	**0.0527**	**1.3000e-004**	**8.7600e-003**	**2.4000e-004**	**9.0000e-003**	**2.3300e-003**	**2.2000e-004**	**2.5600e-003**	**0.0000**	**10.1146**	**10.1146**	**3.9000e-004**	**0.0000**	**10.1229**

3.5 River Crossing 15 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0141	0.1628	0.0758	2.0000e-004		6.1400e-003	6.1400e-003		5.6500e-003	5.6500e-003	0.0000	18.5997	18.5997	5.6100e-003	0.0000	18.7175
Total	**0.0141**	**0.1628**	**0.0758**	**2.0000e-004**	**0.0000**	**6.1400e-003**	**6.1400e-003**	**0.0000**	**5.6500e-003**	**5.6500e-003**	**0.0000**	**18.5997**	**18.5997**	**5.6100e-003**	**0.0000**	**18.7175**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 River Crossing 15 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8300e-003	0.0933	0.1046	2.0000e-004		3.5400e-003	3.5400e-003		3.5400e-003	3.5400e-003	0.0000	18.5997	18.5997	5.6100e-003	0.0000	18.7175
Total	**4.8300e-003**	**0.0933**	**0.1046**	**2.0000e-004**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**18.5997**	**18.5997**	**5.6100e-003**	**0.0000**	**18.7175**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 T PumpStation Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0915	0.0000	0.0915	0.0503	0.0000	0.0503	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1739	1.9708	1.0601	1.9800e-003		0.0901	0.0901		0.0829	0.0829	0.0000	186.7886	186.7886	0.0563	0.0000	187.9718
Total	**0.1739**	**1.9708**	**1.0601**	**1.9800e-003**	**0.0915**	**0.0901**	**0.1816**	**0.0503**	**0.0829**	**0.1332**	**0.0000**	**186.7886**	**186.7886**	**0.0563**	**0.0000**	**187.9718**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2600e-003	0.0167	0.0131	5.0000e-005	1.1000e-003	2.6000e-004	1.3700e-003	3.0000e-004	2.4000e-004	5.5000e-004	0.0000	4.3631	4.3631	3.0000e-005	0.0000	4.3638
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	6.8000e-003	0.0653	1.4000e-004	0.0120	9.0000e-005	0.0121	3.1800e-003	8.0000e-005	3.2700e-003	0.0000	10.6059	10.6059	5.6000e-004	0.0000	10.6176
Total	**5.0900e-003**	**0.0235**	**0.0784**	**1.9000e-004**	**0.0131**	**3.5000e-004**	**0.0134**	**3.4800e-003**	**3.2000e-004**	**3.8200e-003**	**0.0000**	**14.9689**	**14.9689**	**5.9000e-004**	**0.0000**	**14.9814**

3.6 T PumpStation Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0915	0.0000	0.0915	0.0503	0.0000	0.0503	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0487	0.9552	1.1997	1.9800e-003		0.0416	0.0416		0.0416	0.0416	0.0000	186.7884	186.7884	0.0563	0.0000	187.9716
Total	**0.0487**	**0.9552**	**1.1997**	**1.9800e-003**	**0.0915**	**0.0416**	**0.1331**	**0.0503**	**0.0416**	**0.0919**	**0.0000**	**186.7884**	**186.7884**	**0.0563**	**0.0000**	**187.9716**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2600e-003	0.0167	0.0131	5.0000e-005	1.1000e-003	2.6000e-004	1.3700e-003	3.0000e-004	2.4000e-004	5.5000e-004	0.0000	4.3631	4.3631	3.0000e-005	0.0000	4.3638
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	6.8000e-003	0.0653	1.4000e-004	0.0120	9.0000e-005	0.0121	3.1800e-003	8.0000e-005	3.2700e-003	0.0000	10.6059	10.6059	5.6000e-004	0.0000	10.6176
Total	**5.0900e-003**	**0.0235**	**0.0784**	**1.9000e-004**	**0.0131**	**3.5000e-004**	**0.0134**	**3.4800e-003**	**3.2000e-004**	**3.8200e-003**	**0.0000**	**14.9689**	**14.9689**	**5.9000e-004**	**0.0000**	**14.9814**

3.7 Water Truck - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0330	0.3798	0.1769	4.6000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0330**	**0.3798**	**0.1769**	**4.6000e-004**	**0.0000**	**0.0143**	**0.0143**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.7 Water Truck - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.2177	0.2440	4.6000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0113**	**0.2177**	**0.2440**	**4.6000e-004**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.7 Water Truck - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0567	0.6392	0.3046	8.5000e-004		0.0237	0.0237		0.0218	0.0218	0.0000	79.2671	79.2671	0.0243	0.0000	79.7772
Total	**0.0567**	**0.6392**	**0.3046**	**8.5000e-004**	**0.0000**	**0.0237**	**0.0237**	**0.0000**	**0.0218**	**0.0218**	**0.0000**	**79.2671**	**79.2671**	**0.0243**	**0.0000**	**79.7772**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.7 Water Truck - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.4043	0.4531	8.5000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	79.2670	79.2670	0.0243	0.0000	79.7771
Total	**0.0209**	**0.4043**	**0.4531**	**8.5000e-004**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**79.2670**	**79.2670**	**0.0243**	**0.0000**	**79.7771**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.7 Water Truck - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.1346	0.0679	2.1000e-004		4.9100e-003	4.9100e-003		4.5200e-003	4.5200e-003	0.0000	19.5034	19.5034	6.0700e-003	0.0000	19.6309
Total	**0.0125**	**0.1346**	**0.0679**	**2.1000e-004**	**0.0000**	**4.9100e-003**	**4.9100e-003**	**0.0000**	**4.5200e-003**	**4.5200e-003**	**0.0000**	**19.5034**	**19.5034**	**6.0700e-003**	**0.0000**	**19.6309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.7 Water Truck - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1011	0.1133	2.1000e-004		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	19.5033	19.5033	6.0700e-003	0.0000	19.6308
Total	**5.2300e-003**	**0.1011**	**0.1133**	**2.1000e-004**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**19.5033**	**19.5033**	**6.0700e-003**	**0.0000**	**19.6308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.8 River Crossing 60 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0683	0.7562	0.4599	5.6000e-004		0.0374	0.0374		0.0344	0.0344	0.0000	53.0463	53.0463	0.0160	0.0000	53.3823
Total	**0.0683**	**0.7562**	**0.4599**	**5.6000e-004**	**0.1807**	**0.0374**	**0.2181**	**0.0993**	**0.0344**	**0.1338**	**0.0000**	**53.0463**	**53.0463**	**0.0160**	**0.0000**	**53.3823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 River Crossing 60 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.2765	0.3244	5.6000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	53.0463	53.0463	0.0160	0.0000	53.3823
Total	**0.0138**	**0.2765**	**0.3244**	**5.6000e-004**	**0.1807**	**0.0125**	**0.1932**	**0.0993**	**0.0125**	**0.1118**	**0.0000**	**53.0463**	**53.0463**	**0.0160**	**0.0000**	**53.3823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 T Water Truck - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0330	0.3798	0.1769	4.6000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0330**	**0.3798**	**0.1769**	**4.6000e-004**	**0.0000**	**0.0143**	**0.0143**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.9 T Water Truck - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.2177	0.2440	4.6000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0113**	**0.2177**	**0.2440**	**4.6000e-004**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.9 T Water Truck - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0567	0.6392	0.3046	8.5000e-004		0.0237	0.0237		0.0218	0.0218	0.0000	79.2671	79.2671	0.0243	0.0000	79.7772
Total	**0.0567**	**0.6392**	**0.3046**	**8.5000e-004**	**0.0000**	**0.0237**	**0.0237**	**0.0000**	**0.0218**	**0.0218**	**0.0000**	**79.2671**	**79.2671**	**0.0243**	**0.0000**	**79.7772**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.9 T Water Truck - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.4043	0.4531	8.5000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	79.2670	79.2670	0.0243	0.0000	79.7771
Total	**0.0209**	**0.4043**	**0.4531**	**8.5000e-004**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**79.2670**	**79.2670**	**0.0243**	**0.0000**	**79.7771**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.9 T Water Truck - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.1346	0.0679	2.1000e-004		4.9100e-003	4.9100e-003		4.5200e-003	4.5200e-003	0.0000	19.5034	19.5034	6.0700e-003	0.0000	19.6309
Total	**0.0125**	**0.1346**	**0.0679**	**2.1000e-004**	**0.0000**	**4.9100e-003**	**4.9100e-003**	**0.0000**	**4.5200e-003**	**4.5200e-003**	**0.0000**	**19.5034**	**19.5034**	**6.0700e-003**	**0.0000**	**19.6309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.9 T Water Truck - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1011	0.1133	2.1000e-004		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	19.5033	19.5033	6.0700e-003	0.0000	19.6308
Total	**5.2300e-003**	**0.1011**	**0.1133**	**2.1000e-004**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**19.5033**	**19.5033**	**6.0700e-003**	**0.0000**	**19.6308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.10 River Crossing 45 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6600e-003	0.0455	0.0396	6.0000e-005		2.6400e-003	2.6400e-003		2.4200e-003	2.4200e-003	0.0000	5.3099	5.3099	1.6000e-003	0.0000	5.3435
Total	**3.6600e-003**	**0.0455**	**0.0396**	**6.0000e-005**		**2.6400e-003**	**2.6400e-003**		**2.4200e-003**	**2.4200e-003**	**0.0000**	**5.3099**	**5.3099**	**1.6000e-003**	**0.0000**	**5.3435**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.10 River Crossing 45 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4300e-003	0.0326	0.0441	6.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	5.3099	5.3099	1.6000e-003	0.0000	5.3435
Total	**1.4300e-003**	**0.0326**	**0.0441**	**6.0000e-005**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**5.3099**	**5.3099**	**1.6000e-003**	**0.0000**	**5.3435**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.11 River Crossing 120 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0748	0.8573	0.5630	1.0300e-003		0.0384	0.0384		0.0354	0.0354	0.0000	97.0647	97.0647	0.0293	0.0000	97.6795
Total	**0.0748**	**0.8573**	**0.5630**	**1.0300e-003**		**0.0384**	**0.0384**		**0.0354**	**0.0354**	**0.0000**	**97.0647**	**97.0647**	**0.0293**	**0.0000**	**97.6795**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.11 River Crossing 120 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0253	0.4889	0.6912	1.0300e-003		0.0217	0.0217		0.0217	0.0217	0.0000	97.0646	97.0646	0.0293	0.0000	97.6794
Total	**0.0253**	**0.4889**	**0.6912**	**1.0300e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**97.0646**	**97.0646**	**0.0293**	**0.0000**	**97.6794**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.12 River Crossing 240 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0252	0.2986	0.1045	2.0000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	18.6138	18.6138	5.6100e-003	0.0000	18.7317
Total	**0.0252**	**0.2986**	**0.1045**	**2.0000e-004**		**0.0136**	**0.0136**		**0.0125**	**0.0125**	**0.0000**	**18.6138**	**18.6138**	**5.6100e-003**	**0.0000**	**18.7317**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9500e-003	0.0141	0.1354	3.0000e-004	0.0249	1.8000e-004	0.0250	6.6100e-003	1.7000e-004	6.7700e-003	0.0000	21.9973	21.9973	1.1600e-003	0.0000	22.0217
Total	**7.9500e-003**	**0.0141**	**0.1354**	**3.0000e-004**	**0.0249**	**1.8000e-004**	**0.0250**	**6.6100e-003**	**1.7000e-004**	**6.7700e-003**	**0.0000**	**21.9973**	**21.9973**	**1.1600e-003**	**0.0000**	**22.0217**

3.12 River Crossing 240 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8500e-003	0.0939	0.1052	2.0000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	18.6138	18.6138	5.6100e-003	0.0000	18.7317
Total	**4.8500e-003**	**0.0939**	**0.1052**	**2.0000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**	**0.0000**	**18.6138**	**18.6138**	**5.6100e-003**	**0.0000**	**18.7317**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9500e-003	0.0141	0.1354	3.0000e-004	0.0249	1.8000e-004	0.0250	6.6100e-003	1.7000e-004	6.7700e-003	0.0000	21.9973	21.9973	1.1600e-003	0.0000	22.0217
Total	**7.9500e-003**	**0.0141**	**0.1354**	**3.0000e-004**	**0.0249**	**1.8000e-004**	**0.0250**	**6.6100e-003**	**1.7000e-004**	**6.7700e-003**	**0.0000**	**21.9973**	**21.9973**	**1.1600e-003**	**0.0000**	**22.0217**

3.12 River Crossing 240 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0178	0.2116	0.0758	1.6000e-004		9.4300e-003	9.4300e-003		8.6800e-003	8.6800e-003	0.0000	14.4007	14.4007	4.4100e-003	0.0000	14.4934
Total	**0.0178**	**0.2116**	**0.0758**	**1.6000e-004**		**9.4300e-003**	**9.4300e-003**		**8.6800e-003**	**8.6800e-003**	**0.0000**	**14.4007**	**14.4007**	**4.4100e-003**	**0.0000**	**14.4934**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3600e-003	9.8000e-003	0.0931	2.3000e-004	0.0195	1.4000e-004	0.0197	5.1900e-003	1.3000e-004	5.3200e-003	0.0000	16.5943	16.5943	8.3000e-004	0.0000	16.6117
Total	**5.3600e-003**	**9.8000e-003**	**0.0931**	**2.3000e-004**	**0.0195**	**1.4000e-004**	**0.0197**	**5.1900e-003**	**1.3000e-004**	**5.3200e-003**	**0.0000**	**16.5943**	**16.5943**	**8.3000e-004**	**0.0000**	**16.6117**

3.12 River Crossing 240 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8100e-003	0.0738	0.0827	1.6000e-004		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	14.4007	14.4007	4.4100e-003	0.0000	14.4933
Total	**3.8100e-003**	**0.0738**	**0.0827**	**1.6000e-004**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**14.4007**	**14.4007**	**4.4100e-003**	**0.0000**	**14.4933**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3600e-003	9.8000e-003	0.0931	2.3000e-004	0.0195	1.4000e-004	0.0197	5.1900e-003	1.3000e-004	5.3200e-003	0.0000	16.5943	16.5943	8.3000e-004	0.0000	16.6117
Total	**5.3600e-003**	**9.8000e-003**	**0.0931**	**2.3000e-004**	**0.0195**	**1.4000e-004**	**0.0197**	**5.1900e-003**	**1.3000e-004**	**5.3200e-003**	**0.0000**	**16.5943**	**16.5943**	**8.3000e-004**	**0.0000**	**16.6117**

3.13 Construction Pipe Trenching - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5485	6.2075	4.0604	5.1500e-003		0.2955	0.2955		0.2723	0.2723	0.0000	476.8165	476.8165	0.1400	0.0000	479.7569
Total	**0.5485**	**6.2075**	**4.0604**	**5.1500e-003**		**0.2955**	**0.2955**		**0.2723**	**0.2723**	**0.0000**	**476.8165**	**476.8165**	**0.1400**	**0.0000**	**479.7569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5100e-003	0.0116	0.1109	2.4000e-004	0.0204	1.5000e-004	0.0205	5.4100e-003	1.4000e-004	5.5500e-003	0.0000	18.0169	18.0169	9.5000e-004	0.0000	18.0368
Total	**6.5100e-003**	**0.0116**	**0.1109**	**2.4000e-004**	**0.0204**	**1.5000e-004**	**0.0205**	**5.4100e-003**	**1.4000e-004**	**5.5500e-003**	**0.0000**	**18.0169**	**18.0169**	**9.5000e-004**	**0.0000**	**18.0368**

3.13 Construction Pipe Trenching - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1436	2.4990	3.0471	5.1500e-003		0.1094	0.1094		0.1094	0.1094	0.0000	476.8159	476.8159	0.1400	0.0000	479.7563
Total	**0.1436**	**2.4990**	**3.0471**	**5.1500e-003**		**0.1094**	**0.1094**		**0.1094**	**0.1094**	**0.0000**	**476.8159**	**476.8159**	**0.1400**	**0.0000**	**479.7563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5100e-003	0.0116	0.1109	2.4000e-004	0.0204	1.5000e-004	0.0205	5.4100e-003	1.4000e-004	5.5500e-003	0.0000	18.0169	18.0169	9.5000e-004	0.0000	18.0368
Total	**6.5100e-003**	**0.0116**	**0.1109**	**2.4000e-004**	**0.0204**	**1.5000e-004**	**0.0205**	**5.4100e-003**	**1.4000e-004**	**5.5500e-003**	**0.0000**	**18.0169**	**18.0169**	**9.5000e-004**	**0.0000**	**18.0368**

3.14 Construction Weir Excavation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0334	0.3256	0.2220	4.0000e-004		0.0195	0.0195		0.0185	0.0185	0.0000	36.5032	36.5032	8.8100e-003	0.0000	36.6882
Total	**0.0334**	**0.3256**	**0.2220**	**4.0000e-004**	**0.0151**	**0.0195**	**0.0345**	**8.2800e-003**	**0.0185**	**0.0268**	**0.0000**	**36.5032**	**36.5032**	**8.8100e-003**	**0.0000**	**36.6882**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3200e-003	2.3500e-003	0.0226	5.0000e-005	4.1400e-003	3.0000e-005	4.1700e-003	1.1000e-003	3.0000e-005	1.1300e-003	0.0000	3.6662	3.6662	1.9000e-004	0.0000	3.6703
Total	**1.3200e-003**	**2.3500e-003**	**0.0226**	**5.0000e-005**	**4.1400e-003**	**3.0000e-005**	**4.1700e-003**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.6662**	**3.6662**	**1.9000e-004**	**0.0000**	**3.6703**

3.14 Construction Weir Excavation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2300e-003	0.1951	0.2497	4.0000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	36.5032	36.5032	8.8100e-003	0.0000	36.6882
Total	**9.2300e-003**	**0.1951**	**0.2497**	**4.0000e-004**	**0.0151**	**0.0110**	**0.0261**	**8.2800e-003**	**0.0110**	**0.0193**	**0.0000**	**36.5032**	**36.5032**	**8.8100e-003**	**0.0000**	**36.6882**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3200e-003	2.3500e-003	0.0226	5.0000e-005	4.1400e-003	3.0000e-005	4.1700e-003	1.1000e-003	3.0000e-005	1.1300e-003	0.0000	3.6662	3.6662	1.9000e-004	0.0000	3.6703
Total	**1.3200e-003**	**2.3500e-003**	**0.0226**	**5.0000e-005**	**4.1400e-003**	**3.0000e-005**	**4.1700e-003**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.6662**	**3.6662**	**1.9000e-004**	**0.0000**	**3.6703**

3.15 Construction Weir Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0403	0.3832	0.2373	3.4000e-004		0.0265	0.0265		0.0247	0.0247	0.0000	31.3256	31.3256	8.5300e-003	0.0000	31.5047
Total	**0.0403**	**0.3832**	**0.2373**	**3.4000e-004**		**0.0265**	**0.0265**		**0.0247**	**0.0247**	**0.0000**	**31.3256**	**31.3256**	**8.5300e-003**	**0.0000**	**31.5047**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.9400e-003	0.0282	6.0000e-005	5.1800e-003	4.0000e-005	5.2200e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.5828	4.5828	2.4000e-004	0.0000	4.5879
Total	**1.6600e-003**	**2.9400e-003**	**0.0282**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2200e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.5828**	**4.5828**	**2.4000e-004**	**0.0000**	**4.5879**

3.15 Construction Weir Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0100e-003	0.1769	0.2312	3.4000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	31.3255	31.3255	8.5300e-003	0.0000	31.5047
Total	**8.0100e-003**	**0.1769**	**0.2312**	**3.4000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**31.3255**	**31.3255**	**8.5300e-003**	**0.0000**	**31.5047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.9400e-003	0.0282	6.0000e-005	5.1800e-003	4.0000e-005	5.2200e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.5828	4.5828	2.4000e-004	0.0000	4.5879
Total	**1.6600e-003**	**2.9400e-003**	**0.0282**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2200e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.5828**	**4.5828**	**2.4000e-004**	**0.0000**	**4.5879**

3.16 PumpStation Equipment Install - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1765	0.0585	1.3000e-004		7.4600e-003	7.4600e-003		6.8600e-003	6.8600e-003	0.0000	12.3072	12.3072	3.7100e-003	0.0000	12.3851
Total	**0.0145**	**0.1765**	**0.0585**	**1.3000e-004**		**7.4600e-003**	**7.4600e-003**		**6.8600e-003**	**6.8600e-003**	**0.0000**	**12.3072**	**12.3072**	**3.7100e-003**	**0.0000**	**12.3851**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**2.5500e-003**	**4.5400e-003**	**0.0435**	**1.0000e-004**	**7.9900e-003**	**6.0000e-005**	**8.0500e-003**	**2.1200e-003**	**5.0000e-005**	**2.1800e-003**	**0.0000**	**7.0706**	**7.0706**	**3.7000e-004**	**0.0000**	**7.0784**

3.16 PumpStation Equipment Install - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2200e-003	0.0622	0.0697	1.3000e-004		2.3600e-003	2.3600e-003		2.3600e-003	2.3600e-003	0.0000	12.3072	12.3072	3.7100e-003	0.0000	12.3851
Total	**3.2200e-003**	**0.0622**	**0.0697**	**1.3000e-004**		**2.3600e-003**	**2.3600e-003**		**2.3600e-003**	**2.3600e-003**	**0.0000**	**12.3072**	**12.3072**	**3.7100e-003**	**0.0000**	**12.3851**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**2.5500e-003**	**4.5400e-003**	**0.0435**	**1.0000e-004**	**7.9900e-003**	**6.0000e-005**	**8.0500e-003**	**2.1200e-003**	**5.0000e-005**	**2.1800e-003**	**0.0000**	**7.0706**	**7.0706**	**3.7000e-004**	**0.0000**	**7.0784**

3.17 T PumpStation Equipment Install - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0121	0.1470	0.0488	1.1000e-004		6.2200e-003	6.2200e-003		5.7200e-003	5.7200e-003	0.0000	10.2560	10.2560	3.0900e-003	0.0000	10.3209
Total	**0.0121**	**0.1470**	**0.0488**	**1.1000e-004**		**6.2200e-003**	**6.2200e-003**		**5.7200e-003**	**5.7200e-003**	**0.0000**	**10.2560**	**10.2560**	**3.0900e-003**	**0.0000**	**10.3209**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1300e-003	3.7800e-003	0.0363	8.0000e-005	6.6600e-003	5.0000e-005	6.7100e-003	1.7700e-003	4.0000e-005	1.8100e-003	0.0000	5.8921	5.8921	3.1000e-004	0.0000	5.8987
Total	**2.1300e-003**	**3.7800e-003**	**0.0363**	**8.0000e-005**	**6.6600e-003**	**5.0000e-005**	**6.7100e-003**	**1.7700e-003**	**4.0000e-005**	**1.8100e-003**	**0.0000**	**5.8921**	**5.8921**	**3.1000e-004**	**0.0000**	**5.8987**

3.17 T PumpStation Equipment Install - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6800e-003	0.0518	0.0581	1.1000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	10.2560	10.2560	3.0900e-003	0.0000	10.3209
Total	**2.6800e-003**	**0.0518**	**0.0581**	**1.1000e-004**		**1.9700e-003**	**1.9700e-003**		**1.9700e-003**	**1.9700e-003**	**0.0000**	**10.2560**	**10.2560**	**3.0900e-003**	**0.0000**	**10.3209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1300e-003	3.7800e-003	0.0363	8.0000e-005	6.6600e-003	5.0000e-005	6.7100e-003	1.7700e-003	4.0000e-005	1.8100e-003	0.0000	5.8921	5.8921	3.1000e-004	0.0000	5.8987
Total	**2.1300e-003**	**3.7800e-003**	**0.0363**	**8.0000e-005**	**6.6600e-003**	**5.0000e-005**	**6.7100e-003**	**1.7700e-003**	**4.0000e-005**	**1.8100e-003**	**0.0000**	**5.8921**	**5.8921**	**3.1000e-004**	**0.0000**	**5.8987**

3.17 T PumpStation Equipment Install - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2100e-003	0.0267	9.1300e-003	2.0000e-005		1.1100e-003	1.1100e-003		1.0200e-003	1.0200e-003	0.0000	2.0198	2.0198	6.2000e-004	0.0000	2.0328
Total	**2.2100e-003**	**0.0267**	**9.1300e-003**	**2.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0200e-003**	**1.0200e-003**	**0.0000**	**2.0198**	**2.0198**	**6.2000e-004**	**0.0000**	**2.0328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	6.7000e-004	6.3500e-003	2.0000e-005	1.3300e-003	1.0000e-005	1.3400e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1314	1.1314	6.0000e-005	0.0000	1.1326
Total	**3.7000e-004**	**6.7000e-004**	**6.3500e-003**	**2.0000e-005**	**1.3300e-003**	**1.0000e-005**	**1.3400e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.1314**	**1.1314**	**6.0000e-005**	**0.0000**	**1.1326**

3.17 T PumpStation Equipment Install - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4000e-004	0.0104	0.0116	2.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	2.0198	2.0198	6.2000e-004	0.0000	2.0327
Total	**5.4000e-004**	**0.0104**	**0.0116**	**2.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**2.0198**	**2.0198**	**6.2000e-004**	**0.0000**	**2.0327**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	6.7000e-004	6.3500e-003	2.0000e-005	1.3300e-003	1.0000e-005	1.3400e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1314	1.1314	6.0000e-005	0.0000	1.1326
Total	**3.7000e-004**	**6.7000e-004**	**6.3500e-003**	**2.0000e-005**	**1.3300e-003**	**1.0000e-005**	**1.3400e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.1314**	**1.1314**	**6.0000e-005**	**0.0000**	**1.1326**

3.18 Construction Pipe Pipeline - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1858	2.0562	1.2640	1.7200e-003		0.1034	0.1034		0.0953	0.0953	0.0000	158.6940	158.6940	0.0463	0.0000	159.6667
Total	**0.1858**	**2.0562**	**1.2640**	**1.7200e-003**		**0.1034**	**0.1034**		**0.0953**	**0.0953**	**0.0000**	**158.6940**	**158.6940**	**0.0463**	**0.0000**	**159.6667**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6500e-003	4.7000e-003	0.0452	1.0000e-004	8.2900e-003	6.0000e-005	8.3500e-003	2.2000e-003	6.0000e-005	2.2600e-003	0.0000	7.3324	7.3324	3.9000e-004	0.0000	7.3406
Total	**2.6500e-003**	**4.7000e-003**	**0.0452**	**1.0000e-004**	**8.2900e-003**	**6.0000e-005**	**8.3500e-003**	**2.2000e-003**	**6.0000e-005**	**2.2600e-003**	**0.0000**	**7.3324**	**7.3324**	**3.9000e-004**	**0.0000**	**7.3406**

3.18 Construction Pipe Pipeline - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0493	0.8504	1.0271	1.7200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	158.6938	158.6938	0.0463	0.0000	159.6665
Total	**0.0493**	**0.8504**	**1.0271**	**1.7200e-003**		**0.0395**	**0.0395**		**0.0395**	**0.0395**	**0.0000**	**158.6938**	**158.6938**	**0.0463**	**0.0000**	**159.6665**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6500e-003	4.7000e-003	0.0452	1.0000e-004	8.2900e-003	6.0000e-005	8.3500e-003	2.2000e-003	6.0000e-005	2.2600e-003	0.0000	7.3324	7.3324	3.9000e-004	0.0000	7.3406
Total	**2.6500e-003**	**4.7000e-003**	**0.0452**	**1.0000e-004**	**8.2900e-003**	**6.0000e-005**	**8.3500e-003**	**2.2000e-003**	**6.0000e-005**	**2.2600e-003**	**0.0000**	**7.3324**	**7.3324**	**3.9000e-004**	**0.0000**	**7.3406**

3.18 Construction Pipe Pipeline - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1102	1.2072	0.7552	1.0800e-003		0.0605	0.0605		0.0557	0.0557	0.0000	98.2246	98.2246	0.0291	0.0000	98.8357
Total	**0.1102**	**1.2072**	**0.7552**	**1.0800e-003**		**0.0605**	**0.0605**		**0.0557**	**0.0557**	**0.0000**	**98.2246**	**98.2246**	**0.0291**	**0.0000**	**98.8357**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4300e-003	2.6100e-003	0.0248	6.0000e-005	5.2100e-003	4.0000e-005	5.2400e-003	1.3800e-003	3.0000e-005	1.4200e-003	0.0000	4.4252	4.4252	2.2000e-004	0.0000	4.4298
Total	**1.4300e-003**	**2.6100e-003**	**0.0248**	**6.0000e-005**	**5.2100e-003**	**4.0000e-005**	**5.2400e-003**	**1.3800e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.4252**	**4.4252**	**2.2000e-004**	**0.0000**	**4.4298**

3.18 Construction Pipe Pipeline - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.5346	0.6456	1.0800e-003		0.0248	0.0248		0.0248	0.0248	0.0000	98.2245	98.2245	0.0291	0.0000	98.8356
Total	**0.0310**	**0.5346**	**0.6456**	**1.0800e-003**		**0.0248**	**0.0248**		**0.0248**	**0.0248**	**0.0000**	**98.2245**	**98.2245**	**0.0291**	**0.0000**	**98.8356**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4300e-003	2.6100e-003	0.0248	6.0000e-005	5.2100e-003	4.0000e-005	5.2400e-003	1.3800e-003	3.0000e-005	1.4200e-003	0.0000	4.4252	4.4252	2.2000e-004	0.0000	4.4298
Total	**1.4300e-003**	**2.6100e-003**	**0.0248**	**6.0000e-005**	**5.2100e-003**	**4.0000e-005**	**5.2400e-003**	**1.3800e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.4252**	**4.4252**	**2.2000e-004**	**0.0000**	**4.4298**

3.19 Construction Weir Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6000e-003	0.0531	0.0365	6.0000e-005		3.3000e-003	3.3000e-003		3.0600e-003	3.0600e-003	0.0000	4.9151	4.9151	1.3500e-003	0.0000	4.9433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.6000e-003**	**0.0531**	**0.0365**	**6.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0600e-003**	**3.0600e-003**	**0.0000**	**4.9151**	**4.9151**	**1.3500e-003**	**0.0000**	**4.9433**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	5.9000e-004	5.6400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9166	0.9166	5.0000e-005	0.0000	0.9176
Total	**3.3000e-004**	**5.9000e-004**	**5.6400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9166**	**0.9166**	**5.0000e-005**	**0.0000**	**0.9176**

3.19 Construction Weir Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9800e-003	0.0290	0.0385	6.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	4.9151	4.9151	1.3500e-003	0.0000	4.9433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9800e-003**	**0.0290**	**0.0385**	**6.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.6600e-003**	**1.6600e-003**	**0.0000**	**4.9151**	**4.9151**	**1.3500e-003**	**0.0000**	**4.9433**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	5.9000e-004	5.6400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9166	0.9166	5.0000e-005	0.0000	0.9176
Total	**3.3000e-004**	**5.9000e-004**	**5.6400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9166**	**0.9166**	**5.0000e-005**	**0.0000**	**0.9176**

3.20 T Construction Weir Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0300e-003	0.0000	4.0300e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1023	0.0551	7.0000e-005		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	6.6208	6.6208	2.0000e-003	0.0000	6.6627
Total	**0.0102**	**0.1023**	**0.0551**	**7.0000e-005**	**4.0300e-003**	**6.2500e-003**	**0.0103**	**4.4000e-004**	**5.7500e-003**	**6.1900e-003**	**0.0000**	**6.6208**	**6.6208**	**2.0000e-003**	**0.0000**	**6.6627**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4100e-003	0.0187	0.0146	5.0000e-005	1.5400e-003	3.0000e-004	1.8300e-003	4.1000e-004	2.7000e-004	6.9000e-004	0.0000	4.8704	4.8704	4.0000e-005	0.0000	4.8712
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	8.8000e-004	8.4600e-003	2.0000e-005	1.5500e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.3748	1.3748	7.0000e-005	0.0000	1.3764
Total	**1.9100e-003**	**0.0196**	**0.0231**	**7.0000e-005**	**3.0900e-003**	**3.1000e-004**	**3.4000e-003**	**8.2000e-004**	**2.8000e-004**	**1.1100e-003**	**0.0000**	**6.2453**	**6.2453**	**1.1000e-004**	**0.0000**	**6.2475**

3.20 T Construction Weir Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0300e-003	0.0000	4.0300e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7000e-003	0.0349	0.0525	7.0000e-005		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	6.6208	6.6208	2.0000e-003	0.0000	6.6627
Total	**1.7000e-003**	**0.0349**	**0.0525**	**7.0000e-005**	**4.0300e-003**	**1.9700e-003**	**6.0000e-003**	**4.4000e-004**	**1.9700e-003**	**2.4100e-003**	**0.0000**	**6.6208**	**6.6208**	**2.0000e-003**	**0.0000**	**6.6627**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4100e-003	0.0187	0.0146	5.0000e-005	1.5400e-003	3.0000e-004	1.8300e-003	4.1000e-004	2.7000e-004	6.9000e-004	0.0000	4.8704	4.8704	4.0000e-005	0.0000	4.8712
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	8.8000e-004	8.4600e-003	2.0000e-005	1.5500e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.3748	1.3748	7.0000e-005	0.0000	1.3764
Total	**1.9100e-003**	**0.0196**	**0.0231**	**7.0000e-005**	**3.0900e-003**	**3.1000e-004**	**3.4000e-003**	**8.2000e-004**	**2.8000e-004**	**1.1100e-003**	**0.0000**	**6.2453**	**6.2453**	**1.1000e-004**	**0.0000**	**6.2475**

3.21 T Construction Weir Excavation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1800e-003	0.0407	0.0278	5.0000e-005		2.4300e-003	2.4300e-003		2.3100e-003	2.3100e-003	0.0000	4.5629	4.5629	1.1000e-003	0.0000	4.5860
Total	**4.1800e-003**	**0.0407**	**0.0278**	**5.0000e-005**	**0.0151**	**2.4300e-003**	**0.0175**	**8.2800e-003**	**2.3100e-003**	**0.0106**	**0.0000**	**4.5629**	**4.5629**	**1.1000e-003**	**0.0000**	**4.5860**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	2.9000e-004	2.8200e-003	1.0000e-005	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4583	0.4583	2.0000e-005	0.0000	0.4588
Total	**1.7000e-004**	**2.9000e-004**	**2.8200e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4583**	**0.4583**	**2.0000e-005**	**0.0000**	**0.4588**

3.21 T Construction Weir Excavation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1500e-003	0.0244	0.0312	5.0000e-005		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	4.5629	4.5629	1.1000e-003	0.0000	4.5860
Total	**1.1500e-003**	**0.0244**	**0.0312**	**5.0000e-005**	**0.0151**	**1.3800e-003**	**0.0164**	**8.2800e-003**	**1.3800e-003**	**9.6600e-003**	**0.0000**	**4.5629**	**4.5629**	**1.1000e-003**	**0.0000**	**4.5860**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	2.9000e-004	2.8200e-003	1.0000e-005	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4583	0.4583	2.0000e-005	0.0000	0.4588
Total	**1.7000e-004**	**2.9000e-004**	**2.8200e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4583**	**0.4583**	**2.0000e-005**	**0.0000**	**0.4588**

3.21 T Construction Weir Excavation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0268	0.2607	0.1913	3.5000e-004		0.0153	0.0153		0.0145	0.0145	0.0000	31.5785	31.5785	7.6200e-003	0.0000	31.7385
Total	**0.0268**	**0.2607**	**0.1913**	**3.5000e-004**	**0.0151**	**0.0153**	**0.0304**	**8.2800e-003**	**0.0145**	**0.0228**	**0.0000**	**31.5785**	**31.5785**	**7.6200e-003**	**0.0000**	**31.7385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	1.8200e-003	0.0173	4.0000e-005	3.6300e-003	3.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.9000e-004	0.0000	3.0800	3.0800	1.5000e-004	0.0000	3.0832
Total	**9.9000e-004**	**1.8200e-003**	**0.0173**	**4.0000e-005**	**3.6300e-003**	**3.0000e-005**	**3.6500e-003**	**9.6000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**3.0800**	**3.0800**	**1.5000e-004**	**0.0000**	**3.0832**

3.21 T Construction Weir Excavation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0700e-003	0.1707	0.2185	3.5000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	31.5784	31.5784	7.6200e-003	0.0000	31.7385
Total	**8.0700e-003**	**0.1707**	**0.2185**	**3.5000e-004**	**0.0151**	**9.6600e-003**	**0.0247**	**8.2800e-003**	**9.6600e-003**	**0.0179**	**0.0000**	**31.5784**	**31.5784**	**7.6200e-003**	**0.0000**	**31.7385**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	1.8200e-003	0.0173	4.0000e-005	3.6300e-003	3.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.9000e-004	0.0000	3.0800	3.0800	1.5000e-004	0.0000	3.0832
Total	**9.9000e-004**	**1.8200e-003**	**0.0173**	**4.0000e-005**	**3.6300e-003**	**3.0000e-005**	**3.6500e-003**	**9.6000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**3.0800**	**3.0800**	**1.5000e-004**	**0.0000**	**3.0832**

3.22 Construction Backfil and Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0833	0.8527	0.4943	1.0800e-003		0.0411	0.0411		0.0380	0.0380	0.0000	97.5351	97.5351	0.0286	0.0000	98.1360
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0833**	**0.8527**	**0.4943**	**1.0800e-003**		**0.0411**	**0.0411**		**0.0380**	**0.0380**	**0.0000**	**97.5351**	**97.5351**	**0.0286**	**0.0000**	**98.1360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8200e-003	3.3300e-003	0.0316	8.0000e-005	6.6300e-003	5.0000e-005	6.6800e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.6320	5.6320	2.8000e-004	0.0000	5.6379
Total	**1.8200e-003**	**3.3300e-003**	**0.0316**	**8.0000e-005**	**6.6300e-003**	**5.0000e-005**	**6.6800e-003**	**1.7600e-003**	**4.0000e-005**	**1.8000e-003**	**0.0000**	**5.6320**	**5.6320**	**2.8000e-004**	**0.0000**	**5.6379**

3.22 Construction Backfil and Paving - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0321	0.5369	0.6192	1.0800e-003		0.0249	0.0249		0.0249	0.0249	0.0000	97.5350	97.5350	0.0286	0.0000	98.1359
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0321**	**0.5369**	**0.6192**	**1.0800e-003**		**0.0249**	**0.0249**		**0.0249**	**0.0249**	**0.0000**	**97.5350**	**97.5350**	**0.0286**	**0.0000**	**98.1359**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8200e-003	3.3300e-003	0.0316	8.0000e-005	6.6300e-003	5.0000e-005	6.6800e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.6320	5.6320	2.8000e-004	0.0000	5.6379
Total	**1.8200e-003**	**3.3300e-003**	**0.0316**	**8.0000e-005**	**6.6300e-003**	**5.0000e-005**	**6.6800e-003**	**1.7600e-003**	**4.0000e-005**	**1.8000e-003**	**0.0000**	**5.6320**	**5.6320**	**2.8000e-004**	**0.0000**	**5.6379**

3.23 T Construction Weir Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0370	0.3543	0.2327	3.4000e-004		0.0241	0.0241		0.0224	0.0224	0.0000	30.8941	30.8941	8.4700e-003	0.0000	31.0721
Total	**0.0370**	**0.3543**	**0.2327**	**3.4000e-004**		**0.0241**	**0.0241**		**0.0224**	**0.0224**	**0.0000**	**30.8941**	**30.8941**	**8.4700e-003**	**0.0000**	**31.0721**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	2.6000e-003	0.0247	6.0000e-005	5.1800e-003	4.0000e-005	5.2100e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.4000	4.4000	2.2000e-004	0.0000	4.4046
Total	**1.4200e-003**	**2.6000e-003**	**0.0247**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2100e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.4000**	**4.4000**	**2.2000e-004**	**0.0000**	**4.4046**

3.23 T Construction Weir Construction - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0100e-003	0.1769	0.2312	3.4000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	30.8941	30.8941	8.4700e-003	0.0000	31.0721
Total	**8.0100e-003**	**0.1769**	**0.2312**	**3.4000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**30.8941**	**30.8941**	**8.4700e-003**	**0.0000**	**31.0721**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	2.6000e-003	0.0247	6.0000e-005	5.1800e-003	4.0000e-005	5.2100e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.4000	4.4000	2.2000e-004	0.0000	4.4046
Total	**1.4200e-003**	**2.6000e-003**	**0.0247**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2100e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.4000**	**4.4000**	**2.2000e-004**	**0.0000**	**4.4046**

3.24 T Construction Weir Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.2000e-003	0.0492	0.0362	6.0000e-005		3.0100e-003	3.0100e-003		2.7900e-003	2.7900e-003	0.0000	4.8486	4.8486	1.3500e-003	0.0000	4.8769
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.2000e-003**	**0.0492**	**0.0362**	**6.0000e-005**		**3.0100e-003**	**3.0100e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**4.8486**	**4.8486**	**1.3500e-003**	**0.0000**	**4.8769**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	5.2000e-004	4.9400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8800	0.8800	4.0000e-005	0.0000	0.8809
Total	**2.8000e-004**	**5.2000e-004**	**4.9400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8800**	**0.8800**	**4.0000e-005**	**0.0000**	**0.8809**

3.24 T Construction Weir Paving - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9800e-003	0.0289	0.0385	6.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	4.8486	4.8486	1.3500e-003	0.0000	4.8769
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9800e-003**	**0.0289**	**0.0385**	**6.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.6600e-003**	**1.6600e-003**	**0.0000**	**4.8486**	**4.8486**	**1.3500e-003**	**0.0000**	**4.8769**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	5.2000e-004	4.9400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8800	0.8800	4.0000e-005	0.0000	0.8809
Total	**2.8000e-004**	**5.2000e-004**	**4.9400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8800**	**0.8800**	**4.0000e-005**	**0.0000**	**0.8809**

3.25 T River Crossing 15 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0131	0.1475	0.0703	2.0000e-004		5.4800e-003	5.4800e-003		5.0400e-003	5.0400e-003	0.0000	18.2924	18.2924	5.6000e-003	0.0000	18.4101
Total	**0.0131**	**0.1475**	**0.0703**	**2.0000e-004**	**0.0000**	**5.4800e-003**	**5.4800e-003**	**0.0000**	**5.0400e-003**	**5.0400e-003**	**0.0000**	**18.2924**	**18.2924**	**5.6000e-003**	**0.0000**	**18.4101**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.25 T River Crossing 15 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8300e-003	0.0933	0.1046	2.0000e-004		3.5400e-003	3.5400e-003		3.5400e-003	3.5400e-003	0.0000	18.2924	18.2924	5.6000e-003	0.0000	18.4101
Total	**4.8300e-003**	**0.0933**	**0.1046**	**2.0000e-004**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**18.2924**	**18.2924**	**5.6000e-003**	**0.0000**	**18.4101**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.26 T River Crossing 60 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0655	0.7163	0.4417	5.6000e-004		0.0355	0.0355		0.0327	0.0327	0.0000	52.2490	52.2490	0.0160	0.0000	52.5852
Total	**0.0655**	**0.7163**	**0.4417**	**5.6000e-004**	**0.1807**	**0.0355**	**0.2162**	**0.0993**	**0.0327**	**0.1320**	**0.0000**	**52.2490**	**52.2490**	**0.0160**	**0.0000**	**52.5852**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.26 T River Crossing 60 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.2765	0.3244	5.6000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	52.2490	52.2490	0.0160	0.0000	52.5852
Total	**0.0138**	**0.2765**	**0.3244**	**5.6000e-004**	**0.1807**	**0.0125**	**0.1932**	**0.0993**	**0.0125**	**0.1118**	**0.0000**	**52.2490**	**52.2490**	**0.0160**	**0.0000**	**52.5852**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.27 T River Crossing 45 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5500e-003	0.0439	0.0397	6.0000e-005		2.5100e-003	2.5100e-003		2.3100e-003	2.3100e-003	0.0000	5.2415	5.2415	1.6100e-003	0.0000	5.2752
Total	**3.5500e-003**	**0.0439**	**0.0397**	**6.0000e-005**		**2.5100e-003**	**2.5100e-003**		**2.3100e-003**	**2.3100e-003**	**0.0000**	**5.2415**	**5.2415**	**1.6100e-003**	**0.0000**	**5.2752**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.27 T River Crossing 45 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4300e-003	0.0326	0.0441	6.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	5.2415	5.2415	1.6100e-003	0.0000	5.2752
Total	**1.4300e-003**	**0.0326**	**0.0441**	**6.0000e-005**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**5.2415**	**5.2415**	**1.6100e-003**	**0.0000**	**5.2752**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.28 T River Crossing 120 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0696	0.7771	0.5511	1.0300e-003		0.0347	0.0347		0.0319	0.0319	0.0000	95.5078	95.5078	0.0293	0.0000	96.1223
Total	**0.0696**	**0.7771**	**0.5511**	**1.0300e-003**		**0.0347**	**0.0347**		**0.0319**	**0.0319**	**0.0000**	**95.5078**	**95.5078**	**0.0293**	**0.0000**	**96.1223**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.28 T River Crossing 120 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0253	0.4889	0.6912	1.0300e-003		0.0217	0.0217		0.0217	0.0217	0.0000	95.5077	95.5077	0.0293	0.0000	96.1222
Total	**0.0253**	**0.4889**	**0.6912**	**1.0300e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**95.5077**	**95.5077**	**0.0293**	**0.0000**	**96.1222**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.29 T River Crossing 240 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2885	0.1034	2.1000e-004		0.0129	0.0129		0.0118	0.0118	0.0000	19.6373	19.6373	6.0200e-003	0.0000	19.7637
Total	**0.0243**	**0.2885**	**0.1034**	**2.1000e-004**		**0.0129**	**0.0129**		**0.0118**	**0.0118**	**0.0000**	**19.6373**	**19.6373**	**6.0200e-003**	**0.0000**	**19.7637**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3100e-003	0.0134	0.1270	3.2000e-004	0.0266	1.9000e-004	0.0268	7.0800e-003	1.7000e-004	7.2500e-003	0.0000	22.6286	22.6286	1.1300e-003	0.0000	22.6523
Total	**7.3100e-003**	**0.0134**	**0.1270**	**3.2000e-004**	**0.0266**	**1.9000e-004**	**0.0268**	**7.0800e-003**	**1.7000e-004**	**7.2500e-003**	**0.0000**	**22.6286**	**22.6286**	**1.1300e-003**	**0.0000**	**22.6523**

3.29 T River Crossing 240 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2000e-003	0.1006	0.1127	2.1000e-004		3.8100e-003	3.8100e-003		3.8100e-003	3.8100e-003	0.0000	19.6373	19.6373	6.0200e-003	0.0000	19.7636
Total	**5.2100e-003**	**0.1006**	**0.1127**	**2.1000e-004**		**3.8100e-003**	**3.8100e-003**		**3.8100e-003**	**3.8100e-003**	**0.0000**	**19.6373**	**19.6373**	**6.0200e-003**	**0.0000**	**19.7636**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3100e-003	0.0134	0.1270	3.2000e-004	0.0266	1.9000e-004	0.0268	7.0800e-003	1.7000e-004	7.2500e-003	0.0000	22.6286	22.6286	1.1300e-003	0.0000	22.6523
Total	**7.3100e-003**	**0.0134**	**0.1270**	**3.2000e-004**	**0.0266**	**1.9000e-004**	**0.0268**	**7.0800e-003**	**1.7000e-004**	**7.2500e-003**	**0.0000**	**22.6286**	**22.6286**	**1.1300e-003**	**0.0000**	**22.6523**

3.29 T River Crossing 240 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.1502	0.0555	1.3000e-004		6.5000e-003	6.5000e-003		5.9800e-003	5.9800e-003	0.0000	11.5945	11.5945	3.6100e-003	0.0000	11.6703
Total	**0.0126**	**0.1502**	**0.0555**	**1.3000e-004**		**6.5000e-003**	**6.5000e-003**		**5.9800e-003**	**5.9800e-003**	**0.0000**	**11.5945**	**11.5945**	**3.6100e-003**	**0.0000**	**11.6703**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8100e-003	7.1500e-003	0.0676	1.9000e-004	0.0160	1.1000e-004	0.0161	4.2500e-003	1.0000e-004	4.3500e-003	0.0000	13.0887	13.0887	6.2000e-004	0.0000	13.1018
Total	**3.8100e-003**	**7.1500e-003**	**0.0676**	**1.9000e-004**	**0.0160**	**1.1000e-004**	**0.0161**	**4.2500e-003**	**1.0000e-004**	**4.3500e-003**	**0.0000**	**13.0887**	**13.0887**	**6.2000e-004**	**0.0000**	**13.1018**

3.29 T River Crossing 240 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1200e-003	0.0603	0.0676	1.3000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	11.5944	11.5944	3.6100e-003	0.0000	11.6702
Total	**3.1200e-003**	**0.0603**	**0.0676**	**1.3000e-004**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**11.5944**	**11.5944**	**3.6100e-003**	**0.0000**	**11.6702**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8100e-003	7.1500e-003	0.0676	1.9000e-004	0.0160	1.1000e-004	0.0161	4.2500e-003	1.0000e-004	4.3500e-003	0.0000	13.0887	13.0887	6.2000e-004	0.0000	13.1018
Total	**3.8100e-003**	**7.1500e-003**	**0.0676**	**1.9000e-004**	**0.0160**	**1.1000e-004**	**0.0161**	**4.2500e-003**	**1.0000e-004**	**4.3500e-003**	**0.0000**	**13.0887**	**13.0887**	**6.2000e-004**	**0.0000**	**13.1018**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.411222	0.062718	0.156221	0.175699	0.050886	0.007831	0.019556	0.102845	0.001787	0.001576	0.006435	0.000923	0.002302

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,766.3585	6,766.3585	0.2354	0.0487	6,786.4029
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,766.3585	6,766.3585	0.2354	0.0487	6,786.4029
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.7898e+007	6,766.3585	0.2354	0.0487	6,786.4029
Total		**6,766.3585**	**0.2354**	**0.0487**	**6,786.4029**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.7898e+007	6,766.3585	0.2354	0.0487	6,786.4029
Total		**6,766.3585**	**0.2354**	**0.0487**	**6,786.4029**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

NVRRWP Alternative 2 Phased Material Hauling and Tier 3 Mitigation

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	1.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2018
Utility Company	Modesto Irrigation District				
CO2 Intensity (lb/MWhr)	833.46	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of pump station size.

Construction Phase - Used site-specific construction schedule received from RMC by email July 2014 and Project Description. 5 simultaneous crews assumed to be working starting summer 2016.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

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Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Off-road Equipment - Using site specific equipment assumptions provided by RMC.

Trips and VMT - Used site specific information provided by RMC in construction spreadsheet. Workers were assumed for all phases. Material hauling emissions allocated to the first phase of a construction project.

Grading - 'Used site specific information provided by RMC in construction spreadsheet. Workers were assumed for all phases. Material hauling emissions allocated to the first phase of a construction project.

Architectural Coating - no coatings since it is a pipeline underground. Phase used as a unique phase type.

Consumer Products - No consumer products since it is an infrastructure underground pipeline.

Area Coating - No coatings since it is a pipeline underground.

Landscape Equipment - no landscaping since infrastructure project.

Energy Use - Based on pump operation provided by RMC in construction spreadsheet.

Water And Wastewater - No emissions estimated as this is just a change in location of where water is discharged. Thus only energy associated with pumping to new discharge location considered.

Solid Waste - No change in solid waste since this is only a change in location of discharge.

Construction Off-road Equipment Mitigation - Assume Tier 3 mitigation on all equipment over 50 hp.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	2.00	0.00
tblAreaCoating	Area_Nonresidential_Interior	2	3750
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
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tblConstructionPhase	PhaseEndDate	7/13/2018	3/31/2018
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tblConstructionPhase	PhaseEndDate	10/2/2017	11/11/2016

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tblConstructionPhase	PhaseStartDate	6/3/2017	7/15/2016
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tblConstructionPhase	PhaseStartDate	4/1/2018	6/20/2016
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tblGrading	MaterialImported	0.00	288.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	HorsePower	205.00	60.00
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tblOffRoadEquipment	HorsePower	171.00	215.00
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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	1.6662	18.7179	12.3682	0.0229	0.9185	0.8136	1.7321	0.4090	0.7501	1.1591	0.0000	2,096.9667	2,096.9667	0.4044	0.0000	2,105.4593
2017	0.5930	6.2527	3.9764	7.7600e-003	0.2726	0.2935	0.5661	0.1280	0.2710	0.3990	0.0000	694.2723	694.2723	0.1905	0.0000	698.2732
2018	0.0418	0.4274	0.2671	7.7000e-004	0.0179	0.0165	0.0344	4.7600e-003	0.0151	0.0199	0.0000	65.2653	65.2653	0.0165	0.0000	65.6108
Total	**2.3010**	**25.3980**	**16.6117**	**0.0314**	**1.2090**	**1.1235**	**2.3325**	**0.5418**	**1.0362**	**1.5780**	**0.0000**	**2,856.5043**	**2,856.5043**	**0.6114**	**0.0000**	**2,869.3433**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.6069	9.5760	11.1736	0.0229	0.9185	0.3528	1.2713	0.4090	0.3495	0.7585	0.0000	2,096.9652	2,096.9652	0.4044	0.0000	2,105.4577
2017	0.1990	3.3711	4.3968	7.7600e-003	0.2726	0.1505	0.4231	0.1280	0.1505	0.2785	0.0000	694.2715	694.2715	0.1905	0.0000	698.2724
2018	0.0178	0.2705	0.3698	7.7000e-004	0.0179	0.0101	0.0280	4.7600e-003	0.0101	0.0148	0.0000	65.2653	65.2653	0.0165	0.0000	65.6108
Total	**0.8237**	**13.2175**	**15.9403**	**0.0314**	**1.2090**	**0.5134**	**1.7224**	**0.5418**	**0.5101**	**1.0518**	**0.0000**	**2,856.5019**	**2,856.5019**	**0.6114**	**0.0000**	**2,869.3409**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**64.20**	**47.96**	**4.04**	**0.00**	**0.00**	**54.30**	**26.16**	**0.00**	**50.78**	**33.34**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6,766.3585	6,766.3585	0.2354	0.0487	6,786.4029
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6,766.3586**	**6,766.3586**	**0.2354**	**0.0487**	**6,786.4029**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6,766.3585	6,766.3585	0.2354	0.0487	6,786.4029
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6,766.3586**	**6,766.3586**	**0.2354**	**0.0487**	**6,786.4029**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Construction Weir Site Prep	Site Preparation	6/20/2016	7/15/2016	5	20	
2	Construction Pipe Site Prep	Site Preparation	6/20/2016	7/14/2016	5	19	
3	PumpStation Construction	Site Preparation	6/20/2016	9/9/2016	5	60	

4	River Crossing 15	Site Preparation	6/20/2016	7/8/2016	5	15
5	T PumpStation Construction	Site Preparation	6/20/2016	10/21/2016	5	90
6	Water Truck	Grading	6/20/2016	3/31/2018	5	450
7	River Crossing 60	Grading	6/20/2016	9/9/2016	5	60
8	T Water Truck	Grading	6/20/2016	3/31/2018	5	450
9	River Crossing 45	Trenching	6/20/2016	8/19/2016	5	45
10	River Crossing 120	Building Construction	6/20/2016	12/2/2016	5	120
11	River Crossing 240	Architectural Coating	6/20/2016	6/2/2017	5	240
12	Construction Pipe Trenching	Trenching	7/15/2016	11/11/2016	5	86
13	Construction Weir Excavation	Grading	7/18/2016	9/9/2016	5	40
14	Construction Weir Construction	Building Construction	9/12/2016	11/18/2016	5	50
15	PumpStation Equipment Install	Building Construction	9/12/2016	12/2/2016	5	60
16	T PumpStation Equipment Install	Building Construction	10/24/2016	1/13/2017	5	60
17	Construction Pipe Pipeline	Building Construction	11/14/2016	1/31/2017	5	57
18	Construction Weir Paving	Paving	11/21/2016	12/2/2016	5	10
19	T Construction Weir Site Prep	Site Preparation	12/5/2016	12/23/2016	5	20
20	T Construction Weir Excavation	Grading	12/26/2016	2/17/2017	5	40
21	Construction Backfil and Paving	Paving	1/2/2017	2/8/2017	5	28
22	T Construction Weir Construction	Building Construction	2/20/2017	4/28/2017	5	50
23	T Construction Weir Paving	Paving	5/1/2017	5/12/2017	5	10
24	T River Crossing 15	Site Preparation	6/5/2017	6/23/2017	5	15
25	T River Crossing 60	Grading	6/5/2017	8/25/2017	5	60
26	T River Crossing 45	Trenching	6/5/2017	8/4/2017	5	45
27	T River Crossing 120	Building Construction	6/5/2017	11/17/2017	5	120
28	T River Crossing 240	Architectural Coating	6/5/2017	5/4/2018	5	240

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Construction Weir Site Prep	Graders	1	8.00	174	0.41
Construction Weir Site Prep	Rubber Tired Dozers	0	7.00	255	0.40
Construction Weir Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Construction Pipe Site Prep	Graders	0	8.00	174	0.41
Construction Pipe Site Prep	Rubber Tired Dozers	2	8.00	255	0.40
Construction Pipe Site Prep	Scrapers	2	8.00	361	0.48
Construction Pipe Site Prep	Signal Boards	10	8.00	6	0.82
Construction Pipe Site Prep	Tractors/Loaders/Backhoes	0	8.00	97	0.37
PumpStation Construction	Cranes	1	4.00	226	0.29
PumpStation Construction	Excavators	1	8.00	162	0.38
PumpStation Construction	Graders	0	8.00	174	0.41
PumpStation Construction	Other Construction Equipment	1	8.00	104	0.42
PumpStation Construction	Rubber Tired Dozers	1	8.00	255	0.40
PumpStation Construction	Rubber Tired Loaders	1	8.00	199	0.36
PumpStation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
River Crossing 15	Graders	0	8.00	174	0.41
River Crossing 15	Off-Highway Trucks	2	8.00	400	0.38
River Crossing 15	Rubber Tired Dozers	0	7.00	255	0.40
River Crossing 15	Tractors/Loaders/Backhoes	0	8.00	97	0.37
T PumpStation Construction	Cranes	1	4.00	226	0.29
T PumpStation Construction	Excavators	2	8.00	162	0.38
T PumpStation Construction	Graders	0	8.00	174	0.41
T PumpStation Construction	Off-Highway Trucks	4	2.70	400	0.38

T PumpStation Construction	Other Construction Equipment	1	8.00	104	0.42
T PumpStation Construction	Rubber Tired Dozers	1	2.70	255	0.40
T PumpStation Construction	Rubber Tired Loaders	1	8.00	199	0.36
T PumpStation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Water Truck	Graders	0	6.00	174	0.41
Water Truck	Off-Highway Trucks	1	4.00	400	0.38
Water Truck	Rubber Tired Dozers	0	6.00	255	0.40
Water Truck	Tractors/Loaders/Backhoes	0	7.00	97	0.37
River Crossing 60	Graders	0	6.00	174	0.41
River Crossing 60	Other Construction Equipment	1	8.00	215	0.42
River Crossing 60	Other Construction Equipment	1	8.00	104	0.42
River Crossing 60	Rubber Tired Dozers	1	8.00	255	0.40
River Crossing 60	Rubber Tired Loaders	1	8.00	199	0.36
River Crossing 60	Tractors/Loaders/Backhoes	0	7.00	97	0.37
T Water Truck	Graders	0	6.00	174	0.41
T Water Truck	Off-Highway Trucks	1	4.00	400	0.38
T Water Truck	Rubber Tired Dozers	0	6.00	255	0.40
T Water Truck	Tractors/Loaders/Backhoes	0	7.00	97	0.37
River Crossing 45	Bore/Drill Rigs	1	8.00	60	0.50
River Crossing 120	Cranes	0	6.00	226	0.29
River Crossing 120	Excavators	2	8.00	162	0.38
River Crossing 120	Forklifts	0	6.00	89	0.20
River Crossing 120	Generator Sets	0	8.00	84	0.74
River Crossing 120	Off-Highway Trucks	1	4.00	400	0.38
River Crossing 120	Tractors/Loaders/Backhoes	0	6.00	97	0.37
River Crossing 120	Welders	0	8.00	46	0.45
River Crossing 240	Air Compressors	0	6.00	78	0.48
River Crossing 240	Cranes	1	4.00	226	0.29

Construction Pipe Trenching	Excavators	2	8.00	162	0.38
Construction Pipe Trenching	Graders	2	8.00	174	0.41
Construction Pipe Trenching	Rubber Tired Dozers	2	8.00	255	0.40
Construction Pipe Trenching	Scrapers	4	8.00	361	0.48
Construction Pipe Trenching	Signal Boards	10	8.00	6	0.82
Construction Pipe Trenching	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction Weir Excavation	Bore/Drill Rigs	1	6.00	205	0.50
Construction Weir Excavation	Concrete/Industrial Saws	1	8.00	81	0.73
Construction Weir Excavation	Excavators	1	2.00	162	0.38
Construction Weir Excavation	Graders	0	6.00	174	0.41
Construction Weir Excavation	Rubber Tired Dozers	1	1.00	255	0.40
Construction Weir Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Construction Weir Construction	Air Compressors	1	1.00	78	0.48
Construction Weir Construction	Cranes	1	4.00	226	0.29
Construction Weir Construction	Forklifts	2	6.00	89	0.20
Construction Weir Construction	Generator Sets	0	8.00	84	0.74
Construction Weir Construction	Pumps	1	2.00	84	0.74
Construction Weir Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Construction Weir Construction	Welders	0	8.00	46	0.45
PumpStation Equipment Install	Cranes	1	4.00	226	0.29
PumpStation Equipment Install	Forklifts	0	6.00	89	0.20
PumpStation Equipment Install	Generator Sets	0	8.00	84	0.74
PumpStation Equipment Install	Rubber Tired Loaders	1	2.00	199	0.36
PumpStation Equipment Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
PumpStation Equipment Install	Welders	0	8.00	46	0.45
T PumpStation Equipment Install	Cranes	1	4.00	226	0.29
T PumpStation Equipment Install	Forklifts	0	6.00	89	0.20
T PumpStation Equipment Install	Generator Sets	0	8.00	84	0.74

T PumpStation Equipment Install	Rubber Tired Loaders	1	2.00	199	0.36
T PumpStation Equipment Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
T PumpStation Equipment Install	Welders	0	8.00	46	0.45
Construction Pipe Pipeline	Cranes	0	6.00	226	0.29
Construction Pipe Pipeline	Forklifts	0	6.00	89	0.20
Construction Pipe Pipeline	Generator Sets	0	8.00	84	0.74
Construction Pipe Pipeline	Graders	2	8.00	174	0.41
Construction Pipe Pipeline	Scrapers	4	8.00	361	0.48
Construction Pipe Pipeline	Signal Boards	10	8.00	6	0.82
Construction Pipe Pipeline	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Construction Pipe Pipeline	Trenchers	2	8.00	80	0.50
Construction Pipe Pipeline	Welders	0	8.00	46	0.45
Construction Weir Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Construction Weir Paving	Pavers	1	7.00	125	0.42
Construction Weir Paving	Paving Equipment	0	8.00	130	0.36
Construction Weir Paving	Rollers	1	7.00	80	0.38
Construction Weir Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
T Construction Weir Site Prep	Graders	1	8.00	174	0.41
T Construction Weir Site Prep	Rubber Tired Dozers	0	7.00	255	0.40
T Construction Weir Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37
T Construction Weir Excavation	Bore/Drill Rigs	1	6.00	205	0.50
T Construction Weir Excavation	Concrete/Industrial Saws	1	8.00	81	0.73
T Construction Weir Excavation	Excavators	1	2.00	162	0.38
T Construction Weir Excavation	Graders	0	6.00	174	0.41
T Construction Weir Excavation	Rubber Tired Dozers	1	1.00	255	0.40
T Construction Weir Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Construction Backfil and Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Construction Backfil and Paving	Off-Highway Trucks	4	8.00	400	0.38

Construction Backfil and Paving	Pavers	0	6.00	125	0.42
Construction Backfil and Paving	Paving Equipment	0	8.00	130	0.36
Construction Backfil and Paving	Rollers	2	8.00	80	0.38
Construction Backfil and Paving	Signal Boards	10	8.00	6	0.82
Construction Backfil and Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37
T Construction Weir Construction	Air Compressors	1	1.00	78	0.48
T Construction Weir Construction	Cranes	1	4.00	226	0.29
T Construction Weir Construction	Forklifts	2	6.00	89	0.20
T Construction Weir Construction	Generator Sets	0	8.00	84	0.74
T Construction Weir Construction	Pumps	1	2.00	84	0.74
T Construction Weir Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
T Construction Weir Construction	Welders	0	8.00	46	0.45
T Construction Weir Paving	Cement and Mortar Mixers	4	6.00	9	0.56
T Construction Weir Paving	Pavers	1	7.00	125	0.42
T Construction Weir Paving	Paving Equipment	0	8.00	130	0.36
T Construction Weir Paving	Rollers	1	7.00	80	0.38
T Construction Weir Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
T River Crossing 15	Graders	0	8.00	174	0.41
T River Crossing 15	Off-Highway Trucks	2	8.00	400	0.38
T River Crossing 15	Rubber Tired Dozers	0	7.00	255	0.40
T River Crossing 15	Tractors/Loaders/Backhoes	0	8.00	97	0.37
T River Crossing 60	Graders	0	6.00	174	0.41
T River Crossing 60	Other Construction Equipment	1	8.00	215	0.42
T River Crossing 60	Other Construction Equipment	1	8.00	104	0.42
T River Crossing 60	Rubber Tired Dozers	1	8.00	255	0.40
T River Crossing 60	Rubber Tired Loaders	1	8.00	199	0.36
T River Crossing 60	Tractors/Loaders/Backhoes	0	7.00	97	0.37
T River Crossing 45	Bore/Drill Rigs	1	8.00	60	0.50

T River Crossing 120	Cranes	0	6.00	226	0.29
T River Crossing 120	Excavators	2	8.00	162	0.38
T River Crossing 120	Forklifts	0	6.00	89	0.20
T River Crossing 120	Generator Sets	0	8.00	84	0.74
T River Crossing 120	Off-Highway Trucks	1	4.00	400	0.38
T River Crossing 120	Tractors/Loaders/Backhoes	0	6.00	97	0.37
T River Crossing 120	Welders	0	8.00	46	0.45
T River Crossing 240	Air Compressors	0	6.00	78	0.48
T River Crossing 240	Cranes	1	4.00	226	0.29

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Construction Weir Site Prep	2	14.00	0.00	64.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Site Prep	14	32.00	0.00	12,778.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
PumpStation Construction	5	18.00	0.00	42.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 15	2	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T PumpStation Construction	10	18.00	0.00	50.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Water Truck	1	2.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 60	4	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Water Truck	1	2.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 45	1	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 120	3	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
River Crossing 240	1	24.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Trenching	24	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Excavation	6	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Construction	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
PumpStation Equipment Install	2	18.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT

T PumpStation Equipment Install	2	18.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Pipe Pipeline	22	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Weir Paving	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Construction Weir Site Prep	2	14.00	0.00	64.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Construction Weir Excavation	6	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
Construction Backfil and Paving	20	32.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Construction Weir Construction	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T Construction Weir Paving	7	14.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 15	2	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 60	4	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 45	1	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 120	3	0.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT
T River Crossing 240	1	24.00	0.00	0.00	20.00	6.60	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Construction Weir Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3800e-003	0.0000	5.3800e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1364	0.0734	9.0000e-005		8.3400e-003	8.3400e-003		7.6700e-003	7.6700e-003	0.0000	8.8277	8.8277	2.6600e-003	0.0000	8.8836
Total	**0.0136**	**0.1364**	**0.0734**	**9.0000e-005**	**5.3800e-003**	**8.3400e-003**	**0.0137**	**5.8000e-004**	**7.6700e-003**	**8.2500e-003**	**0.0000**	**8.8277**	**8.8277**	**2.6600e-003**	**0.0000**	**8.8836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.4000e-004	0.0125	9.7500e-003	4.0000e-005	8.2000e-004	2.0000e-004	1.0200e-003	2.3000e-004	1.8000e-004	4.1000e-004	0.0000	3.2469	3.2469	2.0000e-005	0.0000	3.2474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**1.6000e-003**	**0.0136**	**0.0210**	**6.0000e-005**	**2.8900e-003**	**2.2000e-004**	**3.1100e-003**	**7.8000e-004**	**1.9000e-004**	**9.7000e-004**	**0.0000**	**5.0801**	**5.0801**	**1.2000e-004**	**0.0000**	**5.0826**

3.2 Construction Weir Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3800e-003	0.0000	5.3800e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2700e-003	0.0465	0.0700	9.0000e-005		2.6200e-003	2.6200e-003		2.6200e-003	2.6200e-003	0.0000	8.8277	8.8277	2.6600e-003	0.0000	8.8836
Total	**2.2700e-003**	**0.0465**	**0.0700**	**9.0000e-005**	**5.3800e-003**	**2.6200e-003**	**8.0000e-003**	**5.8000e-004**	**2.6200e-003**	**3.2000e-003**	**0.0000**	**8.8277**	**8.8277**	**2.6600e-003**	**0.0000**	**8.8836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.4000e-004	0.0125	9.7500e-003	4.0000e-005	8.2000e-004	2.0000e-004	1.0200e-003	2.3000e-004	1.8000e-004	4.1000e-004	0.0000	3.2469	3.2469	2.0000e-005	0.0000	3.2474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**1.6000e-003**	**0.0136**	**0.0210**	**6.0000e-005**	**2.8900e-003**	**2.2000e-004**	**3.1100e-003**	**7.8000e-004**	**1.9000e-004**	**9.7000e-004**	**0.0000**	**5.0801**	**5.0801**	**1.2000e-004**	**0.0000**	**5.0826**

3.3 Construction Pipe Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1481	0.0000	0.1481	0.0671	0.0000	0.0671	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0552	0.6320	0.4372	5.2000e-004		0.0271	0.0271		0.0250	0.0250	0.0000	46.8398	46.8398	0.0133	0.0000	47.1188
Total	**0.0552**	**0.6320**	**0.4372**	**5.2000e-004**	**0.1481**	**0.0271**	**0.1752**	**0.0671**	**0.0250**	**0.0921**	**0.0000**	**46.8398**	**46.8398**	**0.0133**	**0.0000**	**47.1188**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.1875	2.4868	1.9457	7.0900e-003	0.1639	0.0394	0.2033	0.0451	0.0362	0.0813	0.0000	648.2727	648.2727	4.7100e-003	0.0000	648.3715
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	2.5500e-003	0.0245	5.0000e-005	4.5000e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.9805	3.9805	2.1000e-004	0.0000	3.9849
Total	**0.1890**	**2.4893**	**1.9702**	**7.1400e-003**	**0.1684**	**0.0394**	**0.2078**	**0.0463**	**0.0362**	**0.0825**	**0.0000**	**652.2531**	**652.2531**	**4.9200e-003**	**0.0000**	**652.3563**

3.3 Construction Pipe Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1481	0.0000	0.1481	0.0671	0.0000	0.0671	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.2482	0.2684	5.2000e-004		9.4400e-003	9.4400e-003		9.4400e-003	9.4400e-003	0.0000	46.8397	46.8397	0.0133	0.0000	47.1188
Total	**0.0165**	**0.2482**	**0.2684**	**5.2000e-004**	**0.1481**	**9.4400e-003**	**0.1576**	**0.0671**	**9.4400e-003**	**0.0766**	**0.0000**	**46.8397**	**46.8397**	**0.0133**	**0.0000**	**47.1188**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.1875	2.4868	1.9457	7.0900e-003	0.1639	0.0394	0.2033	0.0451	0.0362	0.0813	0.0000	648.2727	648.2727	4.7100e-003	0.0000	648.3715
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	2.5500e-003	0.0245	5.0000e-005	4.5000e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.9805	3.9805	2.1000e-004	0.0000	3.9849
Total	**0.1890**	**2.4893**	**1.9702**	**7.1400e-003**	**0.1684**	**0.0394**	**0.2078**	**0.0463**	**0.0362**	**0.0825**	**0.0000**	**652.2531**	**652.2531**	**4.9200e-003**	**0.0000**	**652.3563**

3.4 PumpStation Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0908	1.0171	0.6076	8.1000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	75.9900	75.9900	0.0229	0.0000	76.4713
Total	**0.0908**	**1.0171**	**0.6076**	**8.1000e-004**	**0.1807**	**0.0498**	**0.2305**	**0.0993**	**0.0458**	**0.1451**	**0.0000**	**75.9900**	**75.9900**	**0.0229**	**0.0000**	**76.4713**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2000e-004	8.1700e-003	6.4000e-003	2.0000e-005	5.4000e-004	1.3000e-004	6.7000e-004	1.5000e-004	1.2000e-004	2.7000e-004	0.0000	2.1308	2.1308	2.0000e-005	0.0000	2.1311
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**3.1700e-003**	**0.0127**	**0.0499**	**1.2000e-004**	**8.5300e-003**	**1.9000e-004**	**8.7200e-003**	**2.2700e-003**	**1.7000e-004**	**2.4500e-003**	**0.0000**	**9.2014**	**9.2014**	**3.9000e-004**	**0.0000**	**9.2095**

3.4 PumpStation Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.3923	0.4900	8.1000e-004		0.0177	0.0177		0.0177	0.0177	0.0000	75.9899	75.9899	0.0229	0.0000	76.4712
Total	**0.0198**	**0.3923**	**0.4900**	**8.1000e-004**	**0.1807**	**0.0177**	**0.1984**	**0.0993**	**0.0177**	**0.1170**	**0.0000**	**75.9899**	**75.9899**	**0.0229**	**0.0000**	**76.4712**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2000e-004	8.1700e-003	6.4000e-003	2.0000e-005	5.4000e-004	1.3000e-004	6.7000e-004	1.5000e-004	1.2000e-004	2.7000e-004	0.0000	2.1308	2.1308	2.0000e-005	0.0000	2.1311
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**3.1700e-003**	**0.0127**	**0.0499**	**1.2000e-004**	**8.5300e-003**	**1.9000e-004**	**8.7200e-003**	**2.2700e-003**	**1.7000e-004**	**2.4500e-003**	**0.0000**	**9.2014**	**9.2014**	**3.9000e-004**	**0.0000**	**9.2095**

3.5 River Crossing 15 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0141	0.1628	0.0758	2.0000e-004		6.1400e-003	6.1400e-003		5.6500e-003	5.6500e-003	0.0000	18.5997	18.5997	5.6100e-003	0.0000	18.7175
Total	**0.0141**	**0.1628**	**0.0758**	**2.0000e-004**	**0.0000**	**6.1400e-003**	**6.1400e-003**	**0.0000**	**5.6500e-003**	**5.6500e-003**	**0.0000**	**18.5997**	**18.5997**	**5.6100e-003**	**0.0000**	**18.7175**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 River Crossing 15 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8300e-003	0.0933	0.1046	2.0000e-004		3.5400e-003	3.5400e-003		3.5400e-003	3.5400e-003	0.0000	18.5997	18.5997	5.6100e-003	0.0000	18.7175
Total	**4.8300e-003**	**0.0933**	**0.1046**	**2.0000e-004**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**18.5997**	**18.5997**	**5.6100e-003**	**0.0000**	**18.7175**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 T PumpStation Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0915	0.0000	0.0915	0.0503	0.0000	0.0503	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1739	1.9708	1.0601	1.9800e-003		0.0901	0.0901		0.0829	0.0829	0.0000	186.7886	186.7886	0.0563	0.0000	187.9718
Total	**0.1739**	**1.9708**	**1.0601**	**1.9800e-003**	**0.0915**	**0.0901**	**0.1816**	**0.0503**	**0.0829**	**0.1332**	**0.0000**	**186.7886**	**186.7886**	**0.0563**	**0.0000**	**187.9718**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.3000e-004	9.7300e-003	7.6100e-003	3.0000e-005	6.4000e-004	1.5000e-004	8.0000e-004	1.8000e-004	1.4000e-004	3.2000e-004	0.0000	2.5367	2.5367	2.0000e-005	0.0000	2.5371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	6.8000e-003	0.0653	1.4000e-004	0.0120	9.0000e-005	0.0121	3.1800e-003	8.0000e-005	3.2700e-003	0.0000	10.6059	10.6059	5.6000e-004	0.0000	10.6176
Total	**4.5600e-003**	**0.0165**	**0.0729**	**1.7000e-004**	**0.0126**	**2.4000e-004**	**0.0129**	**3.3600e-003**	**2.2000e-004**	**3.5900e-003**	**0.0000**	**13.1425**	**13.1425**	**5.8000e-004**	**0.0000**	**13.1547**

3.6 T PumpStation Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0915	0.0000	0.0915	0.0503	0.0000	0.0503	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0487	0.9552	1.1997	1.9800e-003		0.0416	0.0416		0.0416	0.0416	0.0000	186.7884	186.7884	0.0563	0.0000	187.9716
Total	**0.0487**	**0.9552**	**1.1997**	**1.9800e-003**	**0.0915**	**0.0416**	**0.1331**	**0.0503**	**0.0416**	**0.0919**	**0.0000**	**186.7884**	**186.7884**	**0.0563**	**0.0000**	**187.9716**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.3000e-004	9.7300e-003	7.6100e-003	3.0000e-005	6.4000e-004	1.5000e-004	8.0000e-004	1.8000e-004	1.4000e-004	3.2000e-004	0.0000	2.5367	2.5367	2.0000e-005	0.0000	2.5371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	6.8000e-003	0.0653	1.4000e-004	0.0120	9.0000e-005	0.0121	3.1800e-003	8.0000e-005	3.2700e-003	0.0000	10.6059	10.6059	5.6000e-004	0.0000	10.6176
Total	**4.5600e-003**	**0.0165**	**0.0729**	**1.7000e-004**	**0.0126**	**2.4000e-004**	**0.0129**	**3.3600e-003**	**2.2000e-004**	**3.5900e-003**	**0.0000**	**13.1425**	**13.1425**	**5.8000e-004**	**0.0000**	**13.1547**

3.7 Water Truck - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0330	0.3798	0.1769	4.6000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0330**	**0.3798**	**0.1769**	**4.6000e-004**	**0.0000**	**0.0143**	**0.0143**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.7 Water Truck - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.2177	0.2440	4.6000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0113**	**0.2177**	**0.2440**	**4.6000e-004**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.7 Water Truck - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0567	0.6392	0.3046	8.5000e-004		0.0237	0.0237		0.0218	0.0218	0.0000	79.2671	79.2671	0.0243	0.0000	79.7772
Total	**0.0567**	**0.6392**	**0.3046**	**8.5000e-004**	**0.0000**	**0.0237**	**0.0237**	**0.0000**	**0.0218**	**0.0218**	**0.0000**	**79.2671**	**79.2671**	**0.0243**	**0.0000**	**79.7772**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.7 Water Truck - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.4043	0.4531	8.5000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	79.2670	79.2670	0.0243	0.0000	79.7771
Total	**0.0209**	**0.4043**	**0.4531**	**8.5000e-004**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**79.2670**	**79.2670**	**0.0243**	**0.0000**	**79.7771**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.7 Water Truck - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.1346	0.0679	2.1000e-004		4.9100e-003	4.9100e-003		4.5200e-003	4.5200e-003	0.0000	19.5034	19.5034	6.0700e-003	0.0000	19.6309
Total	**0.0125**	**0.1346**	**0.0679**	**2.1000e-004**	**0.0000**	**4.9100e-003**	**4.9100e-003**	**0.0000**	**4.5200e-003**	**4.5200e-003**	**0.0000**	**19.5034**	**19.5034**	**6.0700e-003**	**0.0000**	**19.6309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.7 Water Truck - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1011	0.1133	2.1000e-004		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	19.5033	19.5033	6.0700e-003	0.0000	19.6308
Total	**5.2300e-003**	**0.1011**	**0.1133**	**2.1000e-004**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**19.5033**	**19.5033**	**6.0700e-003**	**0.0000**	**19.6308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.8 River Crossing 60 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0683	0.7562	0.4599	5.6000e-004		0.0374	0.0374		0.0344	0.0344	0.0000	53.0463	53.0463	0.0160	0.0000	53.3823
Total	**0.0683**	**0.7562**	**0.4599**	**5.6000e-004**	**0.1807**	**0.0374**	**0.2181**	**0.0993**	**0.0344**	**0.1338**	**0.0000**	**53.0463**	**53.0463**	**0.0160**	**0.0000**	**53.3823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 River Crossing 60 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.2765	0.3244	5.6000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	53.0463	53.0463	0.0160	0.0000	53.3823
Total	**0.0138**	**0.2765**	**0.3244**	**5.6000e-004**	**0.1807**	**0.0125**	**0.1932**	**0.0993**	**0.0125**	**0.1118**	**0.0000**	**53.0463**	**53.0463**	**0.0160**	**0.0000**	**53.3823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 T Water Truck - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0330	0.3798	0.1769	4.6000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0330**	**0.3798**	**0.1769**	**4.6000e-004**	**0.0000**	**0.0143**	**0.0143**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.9 T Water Truck - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.2177	0.2440	4.6000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	43.3993	43.3993	0.0131	0.0000	43.6742
Total	**0.0113**	**0.2177**	**0.2440**	**4.6000e-004**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**8.2600e-003**	**8.2600e-003**	**0.0000**	**43.3993**	**43.3993**	**0.0131**	**0.0000**	**43.6742**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.1800e-003	0.0113	2.0000e-005	2.0700e-003	2.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.8331	1.8331	1.0000e-004	0.0000	1.8351
Total	**6.6000e-004**	**1.1800e-003**	**0.0113**	**2.0000e-005**	**2.0700e-003**	**2.0000e-005**	**2.0900e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.8331**	**1.8331**	**1.0000e-004**	**0.0000**	**1.8351**

3.9 T Water Truck - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0567	0.6392	0.3046	8.5000e-004		0.0237	0.0237		0.0218	0.0218	0.0000	79.2671	79.2671	0.0243	0.0000	79.7772
Total	**0.0567**	**0.6392**	**0.3046**	**8.5000e-004**	**0.0000**	**0.0237**	**0.0237**	**0.0000**	**0.0218**	**0.0218**	**0.0000**	**79.2671**	**79.2671**	**0.0243**	**0.0000**	**79.7772**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.9 T Water Truck - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.4043	0.4531	8.5000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	79.2670	79.2670	0.0243	0.0000	79.7771
Total	**0.0209**	**0.4043**	**0.4531**	**8.5000e-004**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**0.0153**	**0.0153**	**0.0000**	**79.2670**	**79.2670**	**0.0243**	**0.0000**	**79.7771**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.9300e-003	0.0183	5.0000e-005	3.8500e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0500e-003	0.0000	3.2686	3.2686	1.6000e-004	0.0000	3.2720
Total	**1.0600e-003**	**1.9300e-003**	**0.0183**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.2686**	**3.2686**	**1.6000e-004**	**0.0000**	**3.2720**

3.9 T Water Truck - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.1346	0.0679	2.1000e-004		4.9100e-003	4.9100e-003		4.5200e-003	4.5200e-003	0.0000	19.5034	19.5034	6.0700e-003	0.0000	19.6309
Total	**0.0125**	**0.1346**	**0.0679**	**2.1000e-004**	**0.0000**	**4.9100e-003**	**4.9100e-003**	**0.0000**	**4.5200e-003**	**4.5200e-003**	**0.0000**	**19.5034**	**19.5034**	**6.0700e-003**	**0.0000**	**19.6309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.9 T Water Truck - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1011	0.1133	2.1000e-004		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	19.5033	19.5033	6.0700e-003	0.0000	19.6308
Total	**5.2300e-003**	**0.1011**	**0.1133**	**2.1000e-004**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**3.8300e-003**	**3.8300e-003**	**0.0000**	**19.5033**	**19.5033**	**6.0700e-003**	**0.0000**	**19.6308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	4.3000e-004	4.0700e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.7877	0.7877	4.0000e-005	0.0000	0.7885
Total	**2.3000e-004**	**4.3000e-004**	**4.0700e-003**	**1.0000e-005**	**9.6000e-004**	**1.0000e-005**	**9.7000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.7877**	**0.7877**	**4.0000e-005**	**0.0000**	**0.7885**

3.10 River Crossing 45 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6600e-003	0.0455	0.0396	6.0000e-005		2.6400e-003	2.6400e-003		2.4200e-003	2.4200e-003	0.0000	5.3099	5.3099	1.6000e-003	0.0000	5.3435
Total	**3.6600e-003**	**0.0455**	**0.0396**	**6.0000e-005**		**2.6400e-003**	**2.6400e-003**		**2.4200e-003**	**2.4200e-003**	**0.0000**	**5.3099**	**5.3099**	**1.6000e-003**	**0.0000**	**5.3435**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.10 River Crossing 45 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4300e-003	0.0326	0.0441	6.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	5.3099	5.3099	1.6000e-003	0.0000	5.3435
Total	**1.4300e-003**	**0.0326**	**0.0441**	**6.0000e-005**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**5.3099**	**5.3099**	**1.6000e-003**	**0.0000**	**5.3435**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.11 River Crossing 120 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0748	0.8573	0.5630	1.0300e-003		0.0384	0.0384		0.0354	0.0354	0.0000	97.0647	97.0647	0.0293	0.0000	97.6795
Total	**0.0748**	**0.8573**	**0.5630**	**1.0300e-003**		**0.0384**	**0.0384**		**0.0354**	**0.0354**	**0.0000**	**97.0647**	**97.0647**	**0.0293**	**0.0000**	**97.6795**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.11 River Crossing 120 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0253	0.4889	0.6912	1.0300e-003		0.0217	0.0217		0.0217	0.0217	0.0000	97.0646	97.0646	0.0293	0.0000	97.6794
Total	**0.0253**	**0.4889**	**0.6912**	**1.0300e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**97.0646**	**97.0646**	**0.0293**	**0.0000**	**97.6794**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.12 River Crossing 240 - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0252	0.2986	0.1045	2.0000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	18.6138	18.6138	5.6100e-003	0.0000	18.7317
Total	**0.0252**	**0.2986**	**0.1045**	**2.0000e-004**		**0.0136**	**0.0136**		**0.0125**	**0.0125**	**0.0000**	**18.6138**	**18.6138**	**5.6100e-003**	**0.0000**	**18.7317**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9500e-003	0.0141	0.1354	3.0000e-004	0.0249	1.8000e-004	0.0250	6.6100e-003	1.7000e-004	6.7700e-003	0.0000	21.9973	21.9973	1.1600e-003	0.0000	22.0217
Total	**7.9500e-003**	**0.0141**	**0.1354**	**3.0000e-004**	**0.0249**	**1.8000e-004**	**0.0250**	**6.6100e-003**	**1.7000e-004**	**6.7700e-003**	**0.0000**	**21.9973**	**21.9973**	**1.1600e-003**	**0.0000**	**22.0217**

3.12 River Crossing 240 - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8500e-003	0.0939	0.1052	2.0000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	18.6138	18.6138	5.6100e-003	0.0000	18.7317
Total	**4.8500e-003**	**0.0939**	**0.1052**	**2.0000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**	**0.0000**	**18.6138**	**18.6138**	**5.6100e-003**	**0.0000**	**18.7317**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9500e-003	0.0141	0.1354	3.0000e-004	0.0249	1.8000e-004	0.0250	6.6100e-003	1.7000e-004	6.7700e-003	0.0000	21.9973	21.9973	1.1600e-003	0.0000	22.0217
Total	**7.9500e-003**	**0.0141**	**0.1354**	**3.0000e-004**	**0.0249**	**1.8000e-004**	**0.0250**	**6.6100e-003**	**1.7000e-004**	**6.7700e-003**	**0.0000**	**21.9973**	**21.9973**	**1.1600e-003**	**0.0000**	**22.0217**

3.12 River Crossing 240 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0178	0.2116	0.0758	1.6000e-004		9.4300e-003	9.4300e-003		8.6800e-003	8.6800e-003	0.0000	14.4007	14.4007	4.4100e-003	0.0000	14.4934
Total	**0.0178**	**0.2116**	**0.0758**	**1.6000e-004**		**9.4300e-003**	**9.4300e-003**		**8.6800e-003**	**8.6800e-003**	**0.0000**	**14.4007**	**14.4007**	**4.4100e-003**	**0.0000**	**14.4934**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3600e-003	9.8000e-003	0.0931	2.3000e-004	0.0195	1.4000e-004	0.0197	5.1900e-003	1.3000e-004	5.3200e-003	0.0000	16.5943	16.5943	8.3000e-004	0.0000	16.6117
Total	**5.3600e-003**	**9.8000e-003**	**0.0931**	**2.3000e-004**	**0.0195**	**1.4000e-004**	**0.0197**	**5.1900e-003**	**1.3000e-004**	**5.3200e-003**	**0.0000**	**16.5943**	**16.5943**	**8.3000e-004**	**0.0000**	**16.6117**

3.12 River Crossing 240 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8100e-003	0.0738	0.0827	1.6000e-004		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	14.4007	14.4007	4.4100e-003	0.0000	14.4933
Total	**3.8100e-003**	**0.0738**	**0.0827**	**1.6000e-004**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**14.4007**	**14.4007**	**4.4100e-003**	**0.0000**	**14.4933**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3600e-003	9.8000e-003	0.0931	2.3000e-004	0.0195	1.4000e-004	0.0197	5.1900e-003	1.3000e-004	5.3200e-003	0.0000	16.5943	16.5943	8.3000e-004	0.0000	16.6117
Total	**5.3600e-003**	**9.8000e-003**	**0.0931**	**2.3000e-004**	**0.0195**	**1.4000e-004**	**0.0197**	**5.1900e-003**	**1.3000e-004**	**5.3200e-003**	**0.0000**	**16.5943**	**16.5943**	**8.3000e-004**	**0.0000**	**16.6117**

3.13 Construction Pipe Trenching - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5485	6.2075	4.0604	5.1500e-003		0.2955	0.2955		0.2723	0.2723	0.0000	476.8165	476.8165	0.1400	0.0000	479.7569
Total	**0.5485**	**6.2075**	**4.0604**	**5.1500e-003**		**0.2955**	**0.2955**		**0.2723**	**0.2723**	**0.0000**	**476.8165**	**476.8165**	**0.1400**	**0.0000**	**479.7569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5100e-003	0.0116	0.1109	2.4000e-004	0.0204	1.5000e-004	0.0205	5.4100e-003	1.4000e-004	5.5500e-003	0.0000	18.0169	18.0169	9.5000e-004	0.0000	18.0368
Total	**6.5100e-003**	**0.0116**	**0.1109**	**2.4000e-004**	**0.0204**	**1.5000e-004**	**0.0205**	**5.4100e-003**	**1.4000e-004**	**5.5500e-003**	**0.0000**	**18.0169**	**18.0169**	**9.5000e-004**	**0.0000**	**18.0368**

3.13 Construction Pipe Trenching - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1436	2.4990	3.0471	5.1500e-003		0.1094	0.1094		0.1094	0.1094	0.0000	476.8159	476.8159	0.1400	0.0000	479.7563
Total	**0.1436**	**2.4990**	**3.0471**	**5.1500e-003**		**0.1094**	**0.1094**		**0.1094**	**0.1094**	**0.0000**	**476.8159**	**476.8159**	**0.1400**	**0.0000**	**479.7563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5100e-003	0.0116	0.1109	2.4000e-004	0.0204	1.5000e-004	0.0205	5.4100e-003	1.4000e-004	5.5500e-003	0.0000	18.0169	18.0169	9.5000e-004	0.0000	18.0368
Total	**6.5100e-003**	**0.0116**	**0.1109**	**2.4000e-004**	**0.0204**	**1.5000e-004**	**0.0205**	**5.4100e-003**	**1.4000e-004**	**5.5500e-003**	**0.0000**	**18.0169**	**18.0169**	**9.5000e-004**	**0.0000**	**18.0368**

3.14 Construction Weir Excavation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0334	0.3256	0.2220	4.0000e-004		0.0195	0.0195		0.0185	0.0185	0.0000	36.5032	36.5032	8.8100e-003	0.0000	36.6882
Total	**0.0334**	**0.3256**	**0.2220**	**4.0000e-004**	**0.0151**	**0.0195**	**0.0345**	**8.2800e-003**	**0.0185**	**0.0268**	**0.0000**	**36.5032**	**36.5032**	**8.8100e-003**	**0.0000**	**36.6882**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3200e-003	2.3500e-003	0.0226	5.0000e-005	4.1400e-003	3.0000e-005	4.1700e-003	1.1000e-003	3.0000e-005	1.1300e-003	0.0000	3.6662	3.6662	1.9000e-004	0.0000	3.6703
Total	**1.3200e-003**	**2.3500e-003**	**0.0226**	**5.0000e-005**	**4.1400e-003**	**3.0000e-005**	**4.1700e-003**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.6662**	**3.6662**	**1.9000e-004**	**0.0000**	**3.6703**

3.14 Construction Weir Excavation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2300e-003	0.1951	0.2497	4.0000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	36.5032	36.5032	8.8100e-003	0.0000	36.6882
Total	**9.2300e-003**	**0.1951**	**0.2497**	**4.0000e-004**	**0.0151**	**0.0110**	**0.0261**	**8.2800e-003**	**0.0110**	**0.0193**	**0.0000**	**36.5032**	**36.5032**	**8.8100e-003**	**0.0000**	**36.6882**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3200e-003	2.3500e-003	0.0226	5.0000e-005	4.1400e-003	3.0000e-005	4.1700e-003	1.1000e-003	3.0000e-005	1.1300e-003	0.0000	3.6662	3.6662	1.9000e-004	0.0000	3.6703
Total	**1.3200e-003**	**2.3500e-003**	**0.0226**	**5.0000e-005**	**4.1400e-003**	**3.0000e-005**	**4.1700e-003**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.6662**	**3.6662**	**1.9000e-004**	**0.0000**	**3.6703**

3.15 Construction Weir Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0403	0.3832	0.2373	3.4000e-004		0.0265	0.0265		0.0247	0.0247	0.0000	31.3256	31.3256	8.5300e-003	0.0000	31.5047
Total	**0.0403**	**0.3832**	**0.2373**	**3.4000e-004**		**0.0265**	**0.0265**		**0.0247**	**0.0247**	**0.0000**	**31.3256**	**31.3256**	**8.5300e-003**	**0.0000**	**31.5047**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.9400e-003	0.0282	6.0000e-005	5.1800e-003	4.0000e-005	5.2200e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.5828	4.5828	2.4000e-004	0.0000	4.5879
Total	**1.6600e-003**	**2.9400e-003**	**0.0282**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2200e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.5828**	**4.5828**	**2.4000e-004**	**0.0000**	**4.5879**

3.15 Construction Weir Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0100e-003	0.1769	0.2312	3.4000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	31.3255	31.3255	8.5300e-003	0.0000	31.5047
Total	**8.0100e-003**	**0.1769**	**0.2312**	**3.4000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**31.3255**	**31.3255**	**8.5300e-003**	**0.0000**	**31.5047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.9400e-003	0.0282	6.0000e-005	5.1800e-003	4.0000e-005	5.2200e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.5828	4.5828	2.4000e-004	0.0000	4.5879
Total	**1.6600e-003**	**2.9400e-003**	**0.0282**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2200e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.5828**	**4.5828**	**2.4000e-004**	**0.0000**	**4.5879**

3.16 PumpStation Equipment Install - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1765	0.0585	1.3000e-004		7.4600e-003	7.4600e-003		6.8600e-003	6.8600e-003	0.0000	12.3072	12.3072	3.7100e-003	0.0000	12.3851
Total	**0.0145**	**0.1765**	**0.0585**	**1.3000e-004**		**7.4600e-003**	**7.4600e-003**		**6.8600e-003**	**6.8600e-003**	**0.0000**	**12.3072**	**12.3072**	**3.7100e-003**	**0.0000**	**12.3851**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**2.5500e-003**	**4.5400e-003**	**0.0435**	**1.0000e-004**	**7.9900e-003**	**6.0000e-005**	**8.0500e-003**	**2.1200e-003**	**5.0000e-005**	**2.1800e-003**	**0.0000**	**7.0706**	**7.0706**	**3.7000e-004**	**0.0000**	**7.0784**

3.16 PumpStation Equipment Install - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2200e-003	0.0622	0.0697	1.3000e-004		2.3600e-003	2.3600e-003		2.3600e-003	2.3600e-003	0.0000	12.3072	12.3072	3.7100e-003	0.0000	12.3851
Total	**3.2200e-003**	**0.0622**	**0.0697**	**1.3000e-004**		**2.3600e-003**	**2.3600e-003**		**2.3600e-003**	**2.3600e-003**	**0.0000**	**12.3072**	**12.3072**	**3.7100e-003**	**0.0000**	**12.3851**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5500e-003	4.5400e-003	0.0435	1.0000e-004	7.9900e-003	6.0000e-005	8.0500e-003	2.1200e-003	5.0000e-005	2.1800e-003	0.0000	7.0706	7.0706	3.7000e-004	0.0000	7.0784
Total	**2.5500e-003**	**4.5400e-003**	**0.0435**	**1.0000e-004**	**7.9900e-003**	**6.0000e-005**	**8.0500e-003**	**2.1200e-003**	**5.0000e-005**	**2.1800e-003**	**0.0000**	**7.0706**	**7.0706**	**3.7000e-004**	**0.0000**	**7.0784**

3.17 T PumpStation Equipment Install - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0121	0.1470	0.0488	1.1000e-004		6.2200e-003	6.2200e-003		5.7200e-003	5.7200e-003	0.0000	10.2560	10.2560	3.0900e-003	0.0000	10.3209
Total	**0.0121**	**0.1470**	**0.0488**	**1.1000e-004**		**6.2200e-003**	**6.2200e-003**		**5.7200e-003**	**5.7200e-003**	**0.0000**	**10.2560**	**10.2560**	**3.0900e-003**	**0.0000**	**10.3209**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1300e-003	3.7800e-003	0.0363	8.0000e-005	6.6600e-003	5.0000e-005	6.7100e-003	1.7700e-003	4.0000e-005	1.8100e-003	0.0000	5.8921	5.8921	3.1000e-004	0.0000	5.8987
Total	**2.1300e-003**	**3.7800e-003**	**0.0363**	**8.0000e-005**	**6.6600e-003**	**5.0000e-005**	**6.7100e-003**	**1.7700e-003**	**4.0000e-005**	**1.8100e-003**	**0.0000**	**5.8921**	**5.8921**	**3.1000e-004**	**0.0000**	**5.8987**

3.17 T PumpStation Equipment Install - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6800e-003	0.0518	0.0581	1.1000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	10.2560	10.2560	3.0900e-003	0.0000	10.3209
Total	**2.6800e-003**	**0.0518**	**0.0581**	**1.1000e-004**		**1.9700e-003**	**1.9700e-003**		**1.9700e-003**	**1.9700e-003**	**0.0000**	**10.2560**	**10.2560**	**3.0900e-003**	**0.0000**	**10.3209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1300e-003	3.7800e-003	0.0363	8.0000e-005	6.6600e-003	5.0000e-005	6.7100e-003	1.7700e-003	4.0000e-005	1.8100e-003	0.0000	5.8921	5.8921	3.1000e-004	0.0000	5.8987
Total	**2.1300e-003**	**3.7800e-003**	**0.0363**	**8.0000e-005**	**6.6600e-003**	**5.0000e-005**	**6.7100e-003**	**1.7700e-003**	**4.0000e-005**	**1.8100e-003**	**0.0000**	**5.8921**	**5.8921**	**3.1000e-004**	**0.0000**	**5.8987**

3.17 T PumpStation Equipment Install - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2100e-003	0.0267	9.1300e-003	2.0000e-005		1.1100e-003	1.1100e-003		1.0200e-003	1.0200e-003	0.0000	2.0198	2.0198	6.2000e-004	0.0000	2.0328
Total	**2.2100e-003**	**0.0267**	**9.1300e-003**	**2.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0200e-003**	**1.0200e-003**	**0.0000**	**2.0198**	**2.0198**	**6.2000e-004**	**0.0000**	**2.0328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	6.7000e-004	6.3500e-003	2.0000e-005	1.3300e-003	1.0000e-005	1.3400e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1314	1.1314	6.0000e-005	0.0000	1.1326
Total	**3.7000e-004**	**6.7000e-004**	**6.3500e-003**	**2.0000e-005**	**1.3300e-003**	**1.0000e-005**	**1.3400e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.1314**	**1.1314**	**6.0000e-005**	**0.0000**	**1.1326**

3.17 T PumpStation Equipment Install - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4000e-004	0.0104	0.0116	2.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	2.0198	2.0198	6.2000e-004	0.0000	2.0327
Total	**5.4000e-004**	**0.0104**	**0.0116**	**2.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**2.0198**	**2.0198**	**6.2000e-004**	**0.0000**	**2.0327**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	6.7000e-004	6.3500e-003	2.0000e-005	1.3300e-003	1.0000e-005	1.3400e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1314	1.1314	6.0000e-005	0.0000	1.1326
Total	**3.7000e-004**	**6.7000e-004**	**6.3500e-003**	**2.0000e-005**	**1.3300e-003**	**1.0000e-005**	**1.3400e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.1314**	**1.1314**	**6.0000e-005**	**0.0000**	**1.1326**

3.18 Construction Pipe Pipeline - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1858	2.0562	1.2640	1.7200e-003		0.1034	0.1034		0.0953	0.0953	0.0000	158.6940	158.6940	0.0463	0.0000	159.6667
Total	**0.1858**	**2.0562**	**1.2640**	**1.7200e-003**		**0.1034**	**0.1034**		**0.0953**	**0.0953**	**0.0000**	**158.6940**	**158.6940**	**0.0463**	**0.0000**	**159.6667**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6500e-003	4.7000e-003	0.0452	1.0000e-004	8.2900e-003	6.0000e-005	8.3500e-003	2.2000e-003	6.0000e-005	2.2600e-003	0.0000	7.3324	7.3324	3.9000e-004	0.0000	7.3406
Total	**2.6500e-003**	**4.7000e-003**	**0.0452**	**1.0000e-004**	**8.2900e-003**	**6.0000e-005**	**8.3500e-003**	**2.2000e-003**	**6.0000e-005**	**2.2600e-003**	**0.0000**	**7.3324**	**7.3324**	**3.9000e-004**	**0.0000**	**7.3406**

3.18 Construction Pipe Pipeline - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0493	0.8504	1.0271	1.7200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	158.6938	158.6938	0.0463	0.0000	159.6665
Total	**0.0493**	**0.8504**	**1.0271**	**1.7200e-003**		**0.0395**	**0.0395**		**0.0395**	**0.0395**	**0.0000**	**158.6938**	**158.6938**	**0.0463**	**0.0000**	**159.6665**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6500e-003	4.7000e-003	0.0452	1.0000e-004	8.2900e-003	6.0000e-005	8.3500e-003	2.2000e-003	6.0000e-005	2.2600e-003	0.0000	7.3324	7.3324	3.9000e-004	0.0000	7.3406
Total	**2.6500e-003**	**4.7000e-003**	**0.0452**	**1.0000e-004**	**8.2900e-003**	**6.0000e-005**	**8.3500e-003**	**2.2000e-003**	**6.0000e-005**	**2.2600e-003**	**0.0000**	**7.3324**	**7.3324**	**3.9000e-004**	**0.0000**	**7.3406**

3.18 Construction Pipe Pipeline - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1102	1.2072	0.7552	1.0800e-003		0.0605	0.0605		0.0557	0.0557	0.0000	98.2246	98.2246	0.0291	0.0000	98.8357
Total	**0.1102**	**1.2072**	**0.7552**	**1.0800e-003**		**0.0605**	**0.0605**		**0.0557**	**0.0557**	**0.0000**	**98.2246**	**98.2246**	**0.0291**	**0.0000**	**98.8357**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4300e-003	2.6100e-003	0.0248	6.0000e-005	5.2100e-003	4.0000e-005	5.2400e-003	1.3800e-003	3.0000e-005	1.4200e-003	0.0000	4.4252	4.4252	2.2000e-004	0.0000	4.4298
Total	**1.4300e-003**	**2.6100e-003**	**0.0248**	**6.0000e-005**	**5.2100e-003**	**4.0000e-005**	**5.2400e-003**	**1.3800e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.4252**	**4.4252**	**2.2000e-004**	**0.0000**	**4.4298**

3.18 Construction Pipe Pipeline - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.5346	0.6456	1.0800e-003		0.0248	0.0248		0.0248	0.0248	0.0000	98.2245	98.2245	0.0291	0.0000	98.8356
Total	**0.0310**	**0.5346**	**0.6456**	**1.0800e-003**		**0.0248**	**0.0248**		**0.0248**	**0.0248**	**0.0000**	**98.2245**	**98.2245**	**0.0291**	**0.0000**	**98.8356**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4300e-003	2.6100e-003	0.0248	6.0000e-005	5.2100e-003	4.0000e-005	5.2400e-003	1.3800e-003	3.0000e-005	1.4200e-003	0.0000	4.4252	4.4252	2.2000e-004	0.0000	4.4298
Total	**1.4300e-003**	**2.6100e-003**	**0.0248**	**6.0000e-005**	**5.2100e-003**	**4.0000e-005**	**5.2400e-003**	**1.3800e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.4252**	**4.4252**	**2.2000e-004**	**0.0000**	**4.4298**

3.19 Construction Weir Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6000e-003	0.0531	0.0365	6.0000e-005		3.3000e-003	3.3000e-003		3.0600e-003	3.0600e-003	0.0000	4.9151	4.9151	1.3500e-003	0.0000	4.9433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.6000e-003**	**0.0531**	**0.0365**	**6.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0600e-003**	**3.0600e-003**	**0.0000**	**4.9151**	**4.9151**	**1.3500e-003**	**0.0000**	**4.9433**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	5.9000e-004	5.6400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9166	0.9166	5.0000e-005	0.0000	0.9176
Total	**3.3000e-004**	**5.9000e-004**	**5.6400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9166**	**0.9166**	**5.0000e-005**	**0.0000**	**0.9176**

3.19 Construction Weir Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9800e-003	0.0290	0.0385	6.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	4.9151	4.9151	1.3500e-003	0.0000	4.9433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9800e-003**	**0.0290**	**0.0385**	**6.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.6600e-003**	**1.6600e-003**	**0.0000**	**4.9151**	**4.9151**	**1.3500e-003**	**0.0000**	**4.9433**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	5.9000e-004	5.6400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9166	0.9166	5.0000e-005	0.0000	0.9176
Total	**3.3000e-004**	**5.9000e-004**	**5.6400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9166**	**0.9166**	**5.0000e-005**	**0.0000**	**0.9176**

3.20 T Construction Weir Site Prep - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0300e-003	0.0000	4.0300e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1023	0.0551	7.0000e-005		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	6.6208	6.6208	2.0000e-003	0.0000	6.6627
Total	**0.0102**	**0.1023**	**0.0551**	**7.0000e-005**	**4.0300e-003**	**6.2500e-003**	**0.0103**	**4.4000e-004**	**5.7500e-003**	**6.1900e-003**	**0.0000**	**6.6208**	**6.6208**	**2.0000e-003**	**0.0000**	**6.6627**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-004	9.3400e-003	7.3100e-003	3.0000e-005	7.7000e-004	1.5000e-004	9.2000e-004	2.1000e-004	1.4000e-004	3.4000e-004	0.0000	2.4352	2.4352	2.0000e-005	0.0000	2.4356
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	8.8000e-004	8.4600e-003	2.0000e-005	1.5500e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.3748	1.3748	7.0000e-005	0.0000	1.3764
Total	**1.2000e-003**	**0.0102**	**0.0158**	**5.0000e-005**	**2.3200e-003**	**1.6000e-004**	**2.4900e-003**	**6.2000e-004**	**1.5000e-004**	**7.6000e-004**	**0.0000**	**3.8100**	**3.8100**	**9.0000e-005**	**0.0000**	**3.8119**

3.20 T Construction Weir Site Prep - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0300e-003	0.0000	4.0300e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7000e-003	0.0349	0.0525	7.0000e-005		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	6.6208	6.6208	2.0000e-003	0.0000	6.6627
Total	**1.7000e-003**	**0.0349**	**0.0525**	**7.0000e-005**	**4.0300e-003**	**1.9700e-003**	**6.0000e-003**	**4.4000e-004**	**1.9700e-003**	**2.4100e-003**	**0.0000**	**6.6208**	**6.6208**	**2.0000e-003**	**0.0000**	**6.6627**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-004	9.3400e-003	7.3100e-003	3.0000e-005	7.7000e-004	1.5000e-004	9.2000e-004	2.1000e-004	1.4000e-004	3.4000e-004	0.0000	2.4352	2.4352	2.0000e-005	0.0000	2.4356
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	8.8000e-004	8.4600e-003	2.0000e-005	1.5500e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.3748	1.3748	7.0000e-005	0.0000	1.3764
Total	**1.2000e-003**	**0.0102**	**0.0158**	**5.0000e-005**	**2.3200e-003**	**1.6000e-004**	**2.4900e-003**	**6.2000e-004**	**1.5000e-004**	**7.6000e-004**	**0.0000**	**3.8100**	**3.8100**	**9.0000e-005**	**0.0000**	**3.8119**

3.21 T Construction Weir Excavation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1800e-003	0.0407	0.0278	5.0000e-005		2.4300e-003	2.4300e-003		2.3100e-003	2.3100e-003	0.0000	4.5629	4.5629	1.1000e-003	0.0000	4.5860
Total	**4.1800e-003**	**0.0407**	**0.0278**	**5.0000e-005**	**0.0151**	**2.4300e-003**	**0.0175**	**8.2800e-003**	**2.3100e-003**	**0.0106**	**0.0000**	**4.5629**	**4.5629**	**1.1000e-003**	**0.0000**	**4.5860**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	2.9000e-004	2.8200e-003	1.0000e-005	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4583	0.4583	2.0000e-005	0.0000	0.4588
Total	**1.7000e-004**	**2.9000e-004**	**2.8200e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4583**	**0.4583**	**2.0000e-005**	**0.0000**	**0.4588**

3.21 T Construction Weir Excavation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1500e-003	0.0244	0.0312	5.0000e-005		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	4.5629	4.5629	1.1000e-003	0.0000	4.5860
Total	**1.1500e-003**	**0.0244**	**0.0312**	**5.0000e-005**	**0.0151**	**1.3800e-003**	**0.0164**	**8.2800e-003**	**1.3800e-003**	**9.6600e-003**	**0.0000**	**4.5629**	**4.5629**	**1.1000e-003**	**0.0000**	**4.5860**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	2.9000e-004	2.8200e-003	1.0000e-005	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4583	0.4583	2.0000e-005	0.0000	0.4588
Total	**1.7000e-004**	**2.9000e-004**	**2.8200e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4583**	**0.4583**	**2.0000e-005**	**0.0000**	**0.4588**

3.21 T Construction Weir Excavation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0268	0.2607	0.1913	3.5000e-004		0.0153	0.0153		0.0145	0.0145	0.0000	31.5785	31.5785	7.6200e-003	0.0000	31.7385
Total	**0.0268**	**0.2607**	**0.1913**	**3.5000e-004**	**0.0151**	**0.0153**	**0.0304**	**8.2800e-003**	**0.0145**	**0.0228**	**0.0000**	**31.5785**	**31.5785**	**7.6200e-003**	**0.0000**	**31.7385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	1.8200e-003	0.0173	4.0000e-005	3.6300e-003	3.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.9000e-004	0.0000	3.0800	3.0800	1.5000e-004	0.0000	3.0832
Total	**9.9000e-004**	**1.8200e-003**	**0.0173**	**4.0000e-005**	**3.6300e-003**	**3.0000e-005**	**3.6500e-003**	**9.6000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**3.0800**	**3.0800**	**1.5000e-004**	**0.0000**	**3.0832**

3.21 T Construction Weir Excavation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	8.2800e-003	0.0000	8.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0700e-003	0.1707	0.2185	3.5000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	31.5784	31.5784	7.6200e-003	0.0000	31.7385
Total	**8.0700e-003**	**0.1707**	**0.2185**	**3.5000e-004**	**0.0151**	**9.6600e-003**	**0.0247**	**8.2800e-003**	**9.6600e-003**	**0.0179**	**0.0000**	**31.5784**	**31.5784**	**7.6200e-003**	**0.0000**	**31.7385**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	1.8200e-003	0.0173	4.0000e-005	3.6300e-003	3.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.9000e-004	0.0000	3.0800	3.0800	1.5000e-004	0.0000	3.0832
Total	**9.9000e-004**	**1.8200e-003**	**0.0173**	**4.0000e-005**	**3.6300e-003**	**3.0000e-005**	**3.6500e-003**	**9.6000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**3.0800**	**3.0800**	**1.5000e-004**	**0.0000**	**3.0832**

3.22 Construction Backfil and Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0833	0.8527	0.4943	1.0800e-003		0.0411	0.0411		0.0380	0.0380	0.0000	97.5351	97.5351	0.0286	0.0000	98.1360
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0833**	**0.8527**	**0.4943**	**1.0800e-003**		**0.0411**	**0.0411**		**0.0380**	**0.0380**	**0.0000**	**97.5351**	**97.5351**	**0.0286**	**0.0000**	**98.1360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8200e-003	3.3300e-003	0.0316	8.0000e-005	6.6300e-003	5.0000e-005	6.6800e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.6320	5.6320	2.8000e-004	0.0000	5.6379
Total	**1.8200e-003**	**3.3300e-003**	**0.0316**	**8.0000e-005**	**6.6300e-003**	**5.0000e-005**	**6.6800e-003**	**1.7600e-003**	**4.0000e-005**	**1.8000e-003**	**0.0000**	**5.6320**	**5.6320**	**2.8000e-004**	**0.0000**	**5.6379**

3.22 Construction Backfil and Paving - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0321	0.5369	0.6192	1.0800e-003		0.0249	0.0249		0.0249	0.0249	0.0000	97.5350	97.5350	0.0286	0.0000	98.1359
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0321**	**0.5369**	**0.6192**	**1.0800e-003**		**0.0249**	**0.0249**		**0.0249**	**0.0249**	**0.0000**	**97.5350**	**97.5350**	**0.0286**	**0.0000**	**98.1359**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8200e-003	3.3300e-003	0.0316	8.0000e-005	6.6300e-003	5.0000e-005	6.6800e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.6320	5.6320	2.8000e-004	0.0000	5.6379
Total	**1.8200e-003**	**3.3300e-003**	**0.0316**	**8.0000e-005**	**6.6300e-003**	**5.0000e-005**	**6.6800e-003**	**1.7600e-003**	**4.0000e-005**	**1.8000e-003**	**0.0000**	**5.6320**	**5.6320**	**2.8000e-004**	**0.0000**	**5.6379**

3.23 T Construction Weir Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0370	0.3543	0.2327	3.4000e-004		0.0241	0.0241		0.0224	0.0224	0.0000	30.8941	30.8941	8.4700e-003	0.0000	31.0721
Total	**0.0370**	**0.3543**	**0.2327**	**3.4000e-004**		**0.0241**	**0.0241**		**0.0224**	**0.0224**	**0.0000**	**30.8941**	**30.8941**	**8.4700e-003**	**0.0000**	**31.0721**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	2.6000e-003	0.0247	6.0000e-005	5.1800e-003	4.0000e-005	5.2100e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.4000	4.4000	2.2000e-004	0.0000	4.4046
Total	**1.4200e-003**	**2.6000e-003**	**0.0247**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2100e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.4000**	**4.4000**	**2.2000e-004**	**0.0000**	**4.4046**

3.23 T Construction Weir Construction - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0100e-003	0.1769	0.2312	3.4000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	30.8941	30.8941	8.4700e-003	0.0000	31.0721
Total	**8.0100e-003**	**0.1769**	**0.2312**	**3.4000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**	**0.0000**	**30.8941**	**30.8941**	**8.4700e-003**	**0.0000**	**31.0721**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	2.6000e-003	0.0247	6.0000e-005	5.1800e-003	4.0000e-005	5.2100e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.4000	4.4000	2.2000e-004	0.0000	4.4046
Total	**1.4200e-003**	**2.6000e-003**	**0.0247**	**6.0000e-005**	**5.1800e-003**	**4.0000e-005**	**5.2100e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.4000**	**4.4000**	**2.2000e-004**	**0.0000**	**4.4046**

3.24 T Construction Weir Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.2000e-003	0.0492	0.0362	6.0000e-005		3.0100e-003	3.0100e-003		2.7900e-003	2.7900e-003	0.0000	4.8486	4.8486	1.3500e-003	0.0000	4.8769
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.2000e-003**	**0.0492**	**0.0362**	**6.0000e-005**		**3.0100e-003**	**3.0100e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**4.8486**	**4.8486**	**1.3500e-003**	**0.0000**	**4.8769**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	5.2000e-004	4.9400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8800	0.8800	4.0000e-005	0.0000	0.8809
Total	**2.8000e-004**	**5.2000e-004**	**4.9400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8800**	**0.8800**	**4.0000e-005**	**0.0000**	**0.8809**

3.24 T Construction Weir Paving - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9800e-003	0.0289	0.0385	6.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	4.8486	4.8486	1.3500e-003	0.0000	4.8769
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9800e-003**	**0.0289**	**0.0385**	**6.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.6600e-003**	**1.6600e-003**	**0.0000**	**4.8486**	**4.8486**	**1.3500e-003**	**0.0000**	**4.8769**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	5.2000e-004	4.9400e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8800	0.8800	4.0000e-005	0.0000	0.8809
Total	**2.8000e-004**	**5.2000e-004**	**4.9400e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0400e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8800**	**0.8800**	**4.0000e-005**	**0.0000**	**0.8809**

3.25 T River Crossing 15 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0131	0.1475	0.0703	2.0000e-004		5.4800e-003	5.4800e-003		5.0400e-003	5.0400e-003	0.0000	18.2924	18.2924	5.6000e-003	0.0000	18.4101
Total	**0.0131**	**0.1475**	**0.0703**	**2.0000e-004**	**0.0000**	**5.4800e-003**	**5.4800e-003**	**0.0000**	**5.0400e-003**	**5.0400e-003**	**0.0000**	**18.2924**	**18.2924**	**5.6000e-003**	**0.0000**	**18.4101**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.25 T River Crossing 15 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8300e-003	0.0933	0.1046	2.0000e-004		3.5400e-003	3.5400e-003		3.5400e-003	3.5400e-003	0.0000	18.2924	18.2924	5.6000e-003	0.0000	18.4101
Total	**4.8300e-003**	**0.0933**	**0.1046**	**2.0000e-004**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**3.5400e-003**	**3.5400e-003**	**0.0000**	**18.2924**	**18.2924**	**5.6000e-003**	**0.0000**	**18.4101**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.26 T River Crossing 60 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0655	0.7163	0.4417	5.6000e-004		0.0355	0.0355		0.0327	0.0327	0.0000	52.2490	52.2490	0.0160	0.0000	52.5852
Total	**0.0655**	**0.7163**	**0.4417**	**5.6000e-004**	**0.1807**	**0.0355**	**0.2162**	**0.0993**	**0.0327**	**0.1320**	**0.0000**	**52.2490**	**52.2490**	**0.0160**	**0.0000**	**52.5852**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.26 T River Crossing 60 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.2765	0.3244	5.6000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	52.2490	52.2490	0.0160	0.0000	52.5852
Total	**0.0138**	**0.2765**	**0.3244**	**5.6000e-004**	**0.1807**	**0.0125**	**0.1932**	**0.0993**	**0.0125**	**0.1118**	**0.0000**	**52.2490**	**52.2490**	**0.0160**	**0.0000**	**52.5852**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.27 T River Crossing 45 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5500e-003	0.0439	0.0397	6.0000e-005		2.5100e-003	2.5100e-003		2.3100e-003	2.3100e-003	0.0000	5.2415	5.2415	1.6100e-003	0.0000	5.2752
Total	**3.5500e-003**	**0.0439**	**0.0397**	**6.0000e-005**		**2.5100e-003**	**2.5100e-003**		**2.3100e-003**	**2.3100e-003**	**0.0000**	**5.2415**	**5.2415**	**1.6100e-003**	**0.0000**	**5.2752**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.27 T River Crossing 45 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4300e-003	0.0326	0.0441	6.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	5.2415	5.2415	1.6100e-003	0.0000	5.2752
Total	**1.4300e-003**	**0.0326**	**0.0441**	**6.0000e-005**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**5.2415**	**5.2415**	**1.6100e-003**	**0.0000**	**5.2752**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.28 T River Crossing 120 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0696	0.7771	0.5511	1.0300e-003		0.0347	0.0347		0.0319	0.0319	0.0000	95.5078	95.5078	0.0293	0.0000	96.1223
Total	**0.0696**	**0.7771**	**0.5511**	**1.0300e-003**		**0.0347**	**0.0347**		**0.0319**	**0.0319**	**0.0000**	**95.5078**	**95.5078**	**0.0293**	**0.0000**	**96.1223**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.28 T River Crossing 120 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0253	0.4889	0.6912	1.0300e-003		0.0217	0.0217		0.0217	0.0217	0.0000	95.5077	95.5077	0.0293	0.0000	96.1222
Total	**0.0253**	**0.4889**	**0.6912**	**1.0300e-003**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**95.5077**	**95.5077**	**0.0293**	**0.0000**	**96.1222**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.29 T River Crossing 240 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2885	0.1034	2.1000e-004		0.0129	0.0129		0.0118	0.0118	0.0000	19.6373	19.6373	6.0200e-003	0.0000	19.7637
Total	**0.0243**	**0.2885**	**0.1034**	**2.1000e-004**		**0.0129**	**0.0129**		**0.0118**	**0.0118**	**0.0000**	**19.6373**	**19.6373**	**6.0200e-003**	**0.0000**	**19.7637**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3100e-003	0.0134	0.1270	3.2000e-004	0.0266	1.9000e-004	0.0268	7.0800e-003	1.7000e-004	7.2500e-003	0.0000	22.6286	22.6286	1.1300e-003	0.0000	22.6523
Total	**7.3100e-003**	**0.0134**	**0.1270**	**3.2000e-004**	**0.0266**	**1.9000e-004**	**0.0268**	**7.0800e-003**	**1.7000e-004**	**7.2500e-003**	**0.0000**	**22.6286**	**22.6286**	**1.1300e-003**	**0.0000**	**22.6523**

3.29 T River Crossing 240 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2000e-003	0.1006	0.1127	2.1000e-004		3.8100e-003	3.8100e-003		3.8100e-003	3.8100e-003	0.0000	19.6373	19.6373	6.0200e-003	0.0000	19.7636
Total	**5.2100e-003**	**0.1006**	**0.1127**	**2.1000e-004**		**3.8100e-003**	**3.8100e-003**		**3.8100e-003**	**3.8100e-003**	**0.0000**	**19.6373**	**19.6373**	**6.0200e-003**	**0.0000**	**19.7636**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3100e-003	0.0134	0.1270	3.2000e-004	0.0266	1.9000e-004	0.0268	7.0800e-003	1.7000e-004	7.2500e-003	0.0000	22.6286	22.6286	1.1300e-003	0.0000	22.6523
Total	**7.3100e-003**	**0.0134**	**0.1270**	**3.2000e-004**	**0.0266**	**1.9000e-004**	**0.0268**	**7.0800e-003**	**1.7000e-004**	**7.2500e-003**	**0.0000**	**22.6286**	**22.6286**	**1.1300e-003**	**0.0000**	**22.6523**

3.29 T River Crossing 240 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.1502	0.0555	1.3000e-004		6.5000e-003	6.5000e-003		5.9800e-003	5.9800e-003	0.0000	11.5945	11.5945	3.6100e-003	0.0000	11.6703
Total	**0.0126**	**0.1502**	**0.0555**	**1.3000e-004**		**6.5000e-003**	**6.5000e-003**		**5.9800e-003**	**5.9800e-003**	**0.0000**	**11.5945**	**11.5945**	**3.6100e-003**	**0.0000**	**11.6703**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8100e-003	7.1500e-003	0.0676	1.9000e-004	0.0160	1.1000e-004	0.0161	4.2500e-003	1.0000e-004	4.3500e-003	0.0000	13.0887	13.0887	6.2000e-004	0.0000	13.1018
Total	**3.8100e-003**	**7.1500e-003**	**0.0676**	**1.9000e-004**	**0.0160**	**1.1000e-004**	**0.0161**	**4.2500e-003**	**1.0000e-004**	**4.3500e-003**	**0.0000**	**13.0887**	**13.0887**	**6.2000e-004**	**0.0000**	**13.1018**

3.29 T River Crossing 240 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1200e-003	0.0603	0.0676	1.3000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	11.5944	11.5944	3.6100e-003	0.0000	11.6702
Total	**3.1200e-003**	**0.0603**	**0.0676**	**1.3000e-004**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**11.5944**	**11.5944**	**3.6100e-003**	**0.0000**	**11.6702**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8100e-003	7.1500e-003	0.0676	1.9000e-004	0.0160	1.1000e-004	0.0161	4.2500e-003	1.0000e-004	4.3500e-003	0.0000	13.0887	13.0887	6.2000e-004	0.0000	13.1018
Total	**3.8100e-003**	**7.1500e-003**	**0.0676**	**1.9000e-004**	**0.0160**	**1.1000e-004**	**0.0161**	**4.2500e-003**	**1.0000e-004**	**4.3500e-003**	**0.0000**	**13.0887**	**13.0887**	**6.2000e-004**	**0.0000**	**13.1018**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.411222	0.062718	0.156221	0.175699	0.050886	0.007831	0.019556	0.102845	0.001787	0.001576	0.006435	0.000923	0.002302

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,766.3585	6,766.3585	0.2354	0.0487	6,786.4029
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,766.3585	6,766.3585	0.2354	0.0487	6,786.4029

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.7898e+007	6,766.3585	0.2354	0.0487	6,786.4029
Total		**6,766.3585**	**0.2354**	**0.0487**	**6,786.4029**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.7898e+007	6,766.3585	0.2354	0.0487	6,786.4029
Total		**6,766.3585**	**0.2354**	**0.0487**	**6,786.4029**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Appendix C – Construction Equipment List

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NVRRWP Construction Phasing and Equipment List for Air Quality Modeling
Alternative 1 (Combined) - Preliminary - Facilities Planning
July 7, 2014

Construction of Weir Structure

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Site Prep	20	Graders	1	8	
		Tractors/Loaders/Backhoes	1	8	
Excavation	40	Concrete/Industrial Saws	1	8	
		Rubber Tired Dozers	1	1	
		Tractors/Loaders/Backhoes	2	6	
		Excavators	1	2	
		Bore/Drill Rigs	1	6	
Construction	50	Cranes	1	4	
		Forklifts	2	6	
		Tractors/Loaders/Backhoes	2	8	
		Air Compressor	1	1	
		Pumps	1	2	
Paving	10	Cement and Mortar Mixers	4	6	
		Pavers	1	7	
		Rollers	1	7	
		Tractors/Loaders/Backhoes	1	7	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	1			See Material Movement-Weir Tab
Daily Worker Trips	20	8			1 crew trucks for PM, 1 inspection/testing trucks, 2 crew trucks for construction

1. Assumes the structure takes 6 months to finish
2. Hauling trips assumes phased soil import and export. If not phased, see soil movement tab for total round trips.

Construction of Pipeline - Trenched East and West of River

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Site Prep	19	Rubber Tired Dozers	1	8	
		Scrapers	1	8	
		Signal Boards	5	8	
Trenching	73	Excavators	1	8	
		Graders	1	8	
		Rubber Tired Dozers	1	8	
		Scapers	2	8	
		Signal Boards	5	8	
		Tractors/Loaders/Backhoes	2	8	
Pipeline	48	Graders	1	8	
		Scrapers	2	8	
		Signal Boards	5	8	
		Trenchers	1	8	
		Tractors/Loaders/Backhoes	2	8	
Backfill and Paving	28	Rollers	1	8	
		Signal Boards	5	8	
		Cement Truck	1	8	
		Asphalt Truck	1	8	
		Tractors/Loaders/Backhoes	2	8	
	Daily Mileage	**Round Trips per day[2]**			
Hauling Trips	30	83			See Soil Movement-Pipeline Tab
Worker Trips	20	28			2 crew trucks for PM, 4 inspection/testing trucks, 8 crew trucks for construction

1. Working days are counted as 20 days within a calendar month. The trenched pipeline takes 168 days to finish assuming maximum rate of construction at 400 LF/day
The average construction speed according to the proposed schedule is actually 200 LF/day per construction team. This estimates a more conservative approach using two construction teams, totaling 400LF/day.
2. Hauling trips assumes phased soil import and export. If not phased, see soil movement tab for total round trips.

Construction of Pump Station - Modesto

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Construction	60	Excavator	1	8	
	60	Bulldozer	1	8	
	60	Cranes	1	4	
	60	Front end Loader	1	8	
	60	Sheepfoot Compactor	1	8	
	30	Semi-Truck - Delivery	1	NA	One delivery per day
	270	Water Truck	1	4	
Equipment Installation	60	Cranes	1	4	
	30	Front end Loader	1	4	
	180	Water Truck	1	4	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	0			Retrofitting existing pump station; no major soil movement
Daily Worker Trips	20	12			2 crew trucks for PM, 2 crew trucks for construction, 2 crew trucks for equipment install

1. Assumes the structure takes 10 months to finish (Project schedule proposed 12 months and we're more conservative in case the schedule will be updated)
2. Hauling Trips only apply to Excavation and construction phase, assuming minimum grading required (above ground PS)

San Joaquin River Crossing @ Modesto

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Construction	120	Excavators	2	8	
	45	Tunneling Machine	1	8	
	60	Pile Driver	1	8	The pile driver will likely only operate the first 2 months of the construction duration.
	240	Crane	1	4	
	60	Front End Loader	1	8	
	120	Water Truck	1	4	
	15	Semi-truck - delivery	2	NA	Two deliveries per day
	15	Concrete Delivery Truck	2	8	
	60	Bulldozer	1	8	
	60	Sheep Foot Compactor	1	8	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	2			See Soil Movement - Pipeline Tab
Daily Worker Trips	20	16			3 crew trucks for PM, 4 crew trucks for construction, 1 inspection/testing truck

1. Assumes the crossing takes 300 days to finish
2. Hauling trips assumes phased soil import and export. If not phased, see soil movement tab for total round trips.

NVRRWP Construction Phasing and Equipment List for Air Quality Modeling
Alternative 2 (Separate) - Preliminary - Facilities Planning
July 7, 2014

Construction of Weir Structure - Modesto

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Site Prep	20	Graders	1	8	
		Tractors/Loaders/Backhoes	1	8	
Excavation	40	Concrete/Industrial Saws	1	8	
		Rubber Tired Dozers	1	1	
		Tractors/Loaders/Backhoes	2	6	
		Excavators	1	2	
		Bore/Drill Rigs	1	6	
Construction	50	Cranes	1	4	
		Forklifts	2	6	
		Tractors/Loaders/Backhoes	2	8	
		Air Compressor	1	1	
		Pumps	1	2	
Paving	10	Cement and Mortar Mixers	4	6	
		Pavers	1	7	
		Rollers	1	7	
		Tractors/Loaders/Backhoes	1	7	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	1			See Material Movement-Weir Tab
Daily Worker Trips	20	8			1 crew trucks for PM, 1 inspection/testing trucks, 2 crew trucks for construction

1. Assumes the structure takes 6 months to finish
2. Hauling Trips only apply to excavation and construction phase, assumes phased soil import and export. If soil movement is not phased then round trips per day should be 2.

Construction of Weir Structure - Turlock

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Site Prep	20	Graders	1	8	
		Tractors/Loaders/Backhoes	1	8	
Excavation	40	Concrete/Industrial Saws	1	8	
		Rubber Tired Dozers	1	1	
		Tractors/Loaders/Backhoes	2	6	
		Excavators	1	2	
		Bore/Drill Rigs	1	6	
Construction	50	Cranes	1	4	
		Forklifts	2	6	
		Tractors/Loaders/Backhoes	2	8	
		Air Compressor	1	1	
		Pumps	1	2	
Paving	10	Cement and Mortar Mixers	4	6	
		Pavers	1	7	
		Rollers	1	7	
		Tractors/Loaders/Backhoes	1	7	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	1			See Material Movement-Weir Tab
Daily Worker Trips	20	8			1 crew trucks for PM, 1 inspection/testing trucks, 2 crew trucks for construction

1. Assumes the structure takes 6 months to finish
2. Hauling Trips only apply to excavation and construction phase, assumes phased soil import and export. If soil movement is not phased then round trips per day should be 2.

Construction of Pipeline - Trenched East and West of River

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Site Prep	19	Rubber Tired Dozers	2	8	.
		Scrapers	2	8	
		Signal Boards	10	8	
Trenching	86	Excavators	2	8	
		Graders	2	8	
		Rubber Tired Dozers	2	8	
		Scapers	4	8	
		Signal Boards	10	8	
		Tractors/Loaders/Backhoes	4	8	
Pipeline	57	Graders	2	8	
		Scrapers	4	8	
		Signal Boards	10	8	
		Trenchers	2	8	
		Tractors/Loaders/Backhoes	4	8	
Backfill and Paving	28	Rollers	2	8	
		Signal Boards	10	8	
		Cement Truck	2	8	
		Asphalt Truck	2	8	
		Tractors/Loaders/Backhoes	4	8	
	Daily Mileage	**Round Trips per day[2]**			
Hauling Trips	30	71			See Soil Movment-Pipeline Tab
Worker Trips	20	28			2 crew trucks for PM, 4 inspection/testing trucks, 8 crew trucks for construction

1. Working days are counted as 20 days within a calendar month. The trenched pipeline takes 144 days to finish assuming maximum rate of construction at 400 LF/day
The average construction speed according to the proposed schedule is actually 200 LF/day per construction team. This estimates a more conservative approach using two construction teams, totaling 400LF/day.
2. Hauling trips assumes phased soil import and export. If not phased, see soil movement tab for total round trips.

Construction of Pump Station - Modesto

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Construction	60	Excavator	1	8	
	60	Bulldozer	1	8	
	60	Cranes	1	4	
	60	Front end Loader	1	8	
	60	Sheepfoot Compactor	1	8	
	30	Semi-Truck - Delivery	1	NA	One delivery per day
	270	Water Truck	1	4	
Equipment Installation	60	Cranes	1	4	
	30	Front end Loader	1	4	
	180	Water Truck	1	4	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	0			Retrofitting existing pump station; no major soil movement

Daily Worker Trips	20	12			2 crew trucks for PM, 2 crew trucks for construction, 2 crew trucks for equipment install

1. Assumes the structure takes 10 months to finish (Project schedule proposed 12 months and we're more conservative in case the schedule will be updated)
2. Hauling Trips only apply to Excavation and construction phase, assuming minimum grading required (above ground PS)

Construction of Pump Station - Turlock

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Construction	90	Excavator	2	8	
	30	Bulldozer	1	8	
	90	Cranes	1	4	
	90	Front end Loader	1	8	
	90	Sheepfoot Compactor	1	8	
	30	Concrete Delivery	4	8	
	30	Semi-Truck - Delivery	2	NA	2 deliveries per day
	270	Water Truck	1	4	
Equipment Installation	60	Cranes	1	4	
	30	Front end Loader	1	4	See Material Movement-Weir Tab
	180	Water Truck	1	4	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	1			See Material Movement-Pump Station Tab
Daily Worker Trips	20	14			2 crew trucks for PM, 3 crew trucks for construction, 2 crew trucks for equipment install

1. Assumes the structure takes 10 months to finish (Project schedule proposed 12 months and we're more conservative in case the schedule will be updated)
2. Hauling Trips only apply to Excavation and construction phase, assuming minimum grading required (above ground PS)

San Joaquin River Crossing @ Modesto

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Construction	120	Excavators	2	8	
	45	Tunneling Machine	1	8	
	60	Pile Driver	1	8	The pile driver will likely only operate the first 2 months of the construction duration.
	240	Crane	1	4	
	60	Front End Loader	1	8	
	120	Water Truck	1	4	
	15	Semi-truck - delivery	2	NA	Two deliveries per day
	15	Concrete Delivery Truck	2	8	
	60	Bulldozer	1	8	
	60	Sheep Foot Compactor	1	8	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	2			See Soil Movement - Pipeline Tab
Daily Worker Trips	20	16			3 crew trucks for PM, 4 crew trucks for construction, 1 inspection/testing truck

1. Assumes the crossing takes 300 days to finish
2. Hauling Trips only apply to Excavation and construction phase, assuming minimum grading required (above ground PS)

San Joaquin River Crossing @ Turlock

Phase	Working Days[1]	Equipment Type	Quantity of Equipment	Hours per Day	
Construction	120	Excavators	2	8	
	45	Tunneling Machine	1	8	
	60	Pile Driver	1	8	The pile driver will likely only operate the first 2 months of the construction duration.
	240	Crane	1	4	
	60	Front End Loader	1	8	
	120	Water Truck	1	4	
	15	Semi-truck - delivery	2	NA	Two deliveries per day
	15	Concrete Delivery Truck	2	8	
	60	Bulldozer	1	8	
	60	Sheep Foot Compactor	1	8	
	Daily Mileage	**Trips per Day[2]**			
Hauling Trips	30	2			See Soil Movement - Pipeline Tab
Daily Worker Trips	20	16			3 crew trucks for PM, 4 crew trucks for construction, 1 inspection/testing truck

1. Assumes the crossing takes 300 days to finish
2. Hauling Trips only apply to Excavation and construction phase, assuming minimum grading required (above ground PS)

Pipeline Component Assumptions

Project Working Day Schedule	**Days**	**Month**	
Assuming 5 days/week	168	8.4	
Average Speed	200	LF/day	
Max Speed for Pipe Construction	400	LF/day	Assumes 2 crews
Max Speed for Material Import/Export	400	LF/day	
Disturbed Area	45	ft	

Truck Capacity

Assuming project alignment is constructed linearly with no overlapping component

	Pipeline Description					Disturbed Acreage			Import/Export Soil			
Parameters	**RW Pipe Length**		**Trench Width**	**Bedding and Filling Depth**	**Pipe Diameter**	**Disturb Total**	**Disturb Max. Daily**		**Import Max. Daily**	**Export Max. Daily**	**Total Import**	**Total Export**
Unites	**miles**	**feet**	**feet**	**feet**	**in**	**acres**	**acres**		**CY**	**CY**	**CY**	**CY**
East	7.2	**37,800**	6	8	**42**	39.0	0.41	38.38	568.6	711.1	53,730.4	67,200.0
West	5.6	**29,500**	8	8	**54**	30.5	0.41	48.10	712.5	948.1	52,549.0	69,925.9
Total	12.7	67,300	-	-	-	39.0	0.41		**1,281.1**	**1,659.3**	53,730.4	67,200.0
Daily Average	-	**400.00**	-	-	-	**0.23**	-		-	-	**319.3**	**399.4**

Hauling Truck trips	64	83
Hauling Truck Mileage	30	30

If Phased	83
If Not Phased	147

River Crossing at Modesto

Length	3000	ft
Diameter	54	inch
With Casing	66	inch
Soil from Crossing	2639.8105	yards
Entry and Pullback Pit		
Width	50	ft
Length	100	ft
Depth	5	ft
Soil Excavation	1851.8519	yards
Total Soil Excavation from River Crossing	4491.6623	yards
	224.58312	# of trucks total
	1.871526	# of trucks/day

Pump Station - Modesto

Construction Schedule

Phases	Week
Site Preparation	4
Grading	4
Building Construction	12
Architectural Coating	0
Paving	2
Total	22

Construction Details

General Description		
Pump Station Size	500	hp
Disturbed Acreage	0.10	Acre
Pump Station Building Width	80	ft
Pump Station Building Length	50	ft
Height	16	ft
Footprint	0.09	Acre
Footprint from DPR map	-	Acre

size of the PS structure is estimated based on number of pumps

Material Export		
Grading Excavation (Export)	0	Cubic Yard
Foundation Width	4	ft
Foundation Depth	2	ft
Foundation Excavation (Export)	72	Cubic Yard
Total Export Volume	72	Cubic Yard
	0.361481481	

Material Import		
Foundation Material (Import)	72	Cubic Yard
Building Wall Thickness	0.7	ft
Building Floor Thickness	1.0	ft
Building Material (Import)	250	Cubic Yard
Total Import Volume	322	Cubic Yard
	1.610534979	

Operation Details

Operation		
Power	500	hp
Annual Energy Consumption	3440423.725	kWh/Yr
Backup Generator	0	kW

Weir
Total soil import export

500	CY import estimated based on existing drawing.
500	CY export
25	# of 20 Yard Trucks
30	# of days of import/export
0.833333	# of truck trips per day

Pipeline Component Assumptions

	Days	Month
Project Working Day Schedule		
Assuming 5 days/week	144	7.2

Average Speed	200	LF/day
Max Speed for Pipe Construction	400	LF/day
Max Speed for Material Import/Export	400	LF/day
Disturbed Area	40	ft

Truck Capacity

Assuming project alignment is constructed linearly with no overlapping component

	Pipeline Description					Disturbed Acreage			Import/Export Soil			
Parameters	**RW Pipe Length**		**Trench Width**	**Bedding and Filling Depth**	**Pipe Diameter**	**Disturb Total**	**Disturb Max. Daily**		**Import Max. Daily**	**Export Max. Daily**	**Total Import**	**Total Export**
Unites	**miles**	**feet**	**feet**	**feet**	**in**	**acres**	**acres**		**CY**	**CY**	**CY**	**CY**
Phase1 - Modesto	5.6	**29,500**	6	8	**42**	27.1	0.37	38.38	568.6	711.1	41,932.5	52,444.4
Phase 2 - Turlock	5.3	28,000	6	8	**42**	25.7	0.37	38.38	**568.6**	**711.1**	39,800.3	49,777.8
Total	10.9	57,500	-	-	-	27.1	0.37		**1,137.2**	**1,422.2**	81,732.8	102,222.2
Daily Average	-	**400.00**	-	-	-	**0.19**	-		-	-	**568.6**	**711.1**

Hauling Truck trips	57	71
Hauling Truck Mileage	30	30

If Phased 71
If Not Phased 128

River Crossing at Modesto

Length	3000	ft
Diameter	42	inch
With Casing	54	inch
Soil from Crossing	1767.1459	yards
Entry and Pullback Pit		
Width	50	ft
Length	100	ft
Depth	5	ft
Soil Excavation	1851.8519	yards
Total Soil Excavation from River Crossing	3618.9977	yards
	180.94989	# of trucks total
	1.5079157	# of trucks/day

River Crossing at Turlock

Length	3000	ft
Diameter	42	inch
With Casing	54	inch
Soil from Crossing	1767.1459	yards
Entry and Pullback Pit		
Width	50	ft
Length	100	ft
Depth	5	ft
Soil Excavation	1851.8519	yards
Total Soil Excavation from River Crossing	3618.9977	yards
	180.94989	# of trucks total
	1.5079157	# of trucks/day

Conversion Factors:
1 mile = 5,280 feet
1 acre = 43,560 sq. feet
1 CY = 27 CF

Pump Station -PS @ Harding Drain Bypass
Construction Schedule

Phases	Week
Site Preparation	4
Grading	4
Building Construction	12
Architectural Coating	0
Paving	2
Total	22

Construction Details

General Description			
Pump Station Size	250	hp	
Disturbed Acreage	0.10	Acre	
Pump Station Building Width	40	ft	size of the PS structure is estimated based on number of pumps
Pump Station Building Length	50	ft	
Height	15	ft	
Footprint	0.05	Acre	
	-	Acre	

Material Export			
Grading Excavation (Export)	250	Cubic Yard	15'x30'x15' wet well below grade, 40'x50' building above grade but not centered over wet well
Foundation Depth	2	ft	
Foundation Excavation (Export)	148	Cubic Yard	
Total Export Volume	398	Cubic Yard	
	19.90740741	# of truck trips total	

Material Import		
Foundation Material (Import)	148	Cubic Yard
Building Wall Thickness	0.7	ft
Building Floor Thickness	1.0	ft
Building Material (Import)	140	Cubic Yard
Total Import Volume	288	Cubic Yard
	14.39506173	# of truck trips total

Operation Details

Operation		
Power	250	hp
Annual Energy Consumption	1720211.863	kWh/Yr
Backup Generator	0	kW

	Total	Per Day
If phased	19.907407	0.66358
If not phased	34.302469	1.143416

Weir - per weir installation
Total soil import export

500	CY import estimated based on existing drawing.
500	CY export
25	# of 20 Yard Trucks
30	# of days of import/export
0.833333	# of truck trips per day

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Appendix D – Supporting Documentation Related to Biological Resources

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Appendix D – Supporting Documentation Related to Biological Resources

This appendix provides supporting documentation for biological resources. Background information on special-status plant and wildlife species with potential to occur in the Study Area was compiled from numerous sources including, but not limited to, the following:

- U.S. Fish and Wildlife Service (USFWS) List of Federal Endangered and Threatened Species that Occur in or May Be Affected by Projects in Stanislaus County as well as in the USGS 7.5 minute quadrangles for the Study Area, including Patterson, Westley, Brush Lake, Crow's Landing (USFWS 2014);
- California Natural Diversity Database (CNDDB and CNPS Inventory of Rare and Endangered Plants of California queries for the USGS 7.5 minute quadrangles within the Project Area and the quadrangles immediately adjacent to them, which are: Patterson, Westley, Brush Lake, Crow's Landing, Copper Mountain, Solyo, Vernalis, Ripon, Salida, Riverbank, Ceres, Hatch, Gustine, Newman, Orestimba Peak and Wilcox Ridge;
- eBird.org records for the Modesto Wastewater Treatment Plant and spray fields; and
- Horizon's field notes and reports from pre-construction surveys and construction monitoring for the Harding Drain Bypass Project (Horizon 2014a).

Chapter 1 Plants

1.1 Alkali milkvetch (*Astragalus tener* var. *tener*) – Rare Plant Rank 1B.2

This plant is an annual herb that is part of the pea family (Fabaceae). It occurs in a range of habitat conditions including vernal pools and playas, edges of salt marshes, alkali meadows, and moist grassy flats (USFWS 2014). Currently, it is most frequently found in the Solano-Colusa vernal pool region. Extant occurrences in the Central Valley include populations in Yolo and Merced counties (LSA 2012). A population of Alkali milkvetch was reported 5 miles east of the Project Area along West Main Avenue, however this population has not been relocated and is thought to be extirpated (CCH 2014a). No *Astragalus* species were observed within the potential suitable habitat within the Project Area (Horizon 2014a).

1.2 Heartscale (*Atriplex cordulata*) – Rare Plant Rank 1B.2

Heartscale is a small, herbaceous, annual species in the goosefoot family (Chenopodiaceae). It occurs on alkaline soils in the southern Sacramento and San Joaquin Valleys. It typically occurs in chenopod scrub and is known to occur in "trampled soils" (BLM 2014), which are present within the alkali scrub adjacent to the Project Area along West Main Avenue.

1.3 Brittlescale (*Atriplex depressa*) – Rare Plant Rank 1B.2

Brittlescale is a small, herbaceous, annual species in the goosefoot family (Chenopodiaceae). It typically occurs on alkaline clay soils in chenopod scrub, grasslands, and meadows. Potentially suitable habitat occurs in alkali flat/scrub habitat adjacent to the Project Area along West Main Avenue.

1.4 Lesser saltscale (*Atriplex minuscula*) – Rare Plant Rank 1B.1

This species is associated with many of the same halophytes as heartscale and San Joaquin spearscale. The life history of lesser saltscale is poorly known, except that it is an annual and flowers from May to October (Skinner and Pavlik 1994; USFWS 1998a). Potentially suitable habitat occurs in alkali flat/scrub habitat adjacent to the Project Area along West Main Avenue. A population of lesser saltscale was recorded approximately 5 miles west of the Project Area just north of West Main Avenue. This record is from 1936 and it has not been relocated suggesting the site has been extirpated (CCH 2014b).

1.5 Vernal pool smallscale (*Atriplex persistens*) – Rare Plant Rank 1B.2

This small, herbaceous plant is endemic to California and was first recognized as a unique species in 1993 (Stutz and Chu 1993). In the San Joaquin Valley, it is known to occur in only a few locations. There is a record for vernal pool smallscale along Carpenter Road from 1965. The location of the occurrence was mapped as a "best guess" in the California Natural Diversity Database (CNDDB) (CDFW 2014a). This occurrence is considered "possibly extirpated." Potentially suitable habitat for this species occurs within the alkali pool adjacent to the Project Area along West Main Avenue.

1.6 Hispid bird's beak (*Chloropyron molle* ssp. *hispidum*) – Rare Plant Rank 1B.2

Hispid bird's beak often occurs with inland saltgrass and alkali sea heath, both of which are present adjacent to the Project Area along West Main Avenue. The nearest known location of this species is 20 miles to the south of the Project area within the Kesterson National Wildlife Refuge. Potentially suitable habitat for this species occurs within the alkali flats adjacent to the Project Area along West Main Avenue.

1.7 San Joaquin spearscale (*Extriplex joaquiniana*) – Rare Plant Rank 1B.2

San Joaquin spearscale occurs in chenopod scrub and seasonally wet areas including meadows and seeps. The Project Area is within the known range of San Joaquin spearscale. Potentially suitable habitat occurs in alkali scrub habitat adjacent to the Project Area along West Main Avenue. The nearest known populations of these species are approximately 20 miles to the south of the Project Area (Jepson Flora Project 2014).

1.8 Slough thistle (*Cirsium crassicaule*) – Rare Plant Rank 1B.1

Slough thistle annual to biennial herbaceous member of the sunflower family (Asteraceae) that may occur within chenopod scrub, riparian scrub and freshwater marshes primarily along sloughs, riverbanks and other marshy areas (CNPS 2014). Habitat for this species might be present within the San Joaquin River crossings, along the river bank and backwater areas. The nearest reported location of this species is over 35 miles to the north of the Project Area near Manteca (Calflora 2014).

1.9 Delta button celery (*Eryngium racemosum*) – Rare Plant Rank 1B.1

Potential habitat for this species might be present within the San Joaquin River crossings, however the hard clay soils and open alkali habitat required for these species was not observed during the preliminary survey conducted in May 2014. The nearest location of Delta button celery is 5 miles to the south of the Project Area within the floodplain of the San Joaquin River (Jepson Flora Project 2014).

1.10 Prostrate vernal pool navarretia (*Navarretia prostrata*) – Rare Plant Rank 1B.1

This is a small annual plant that occurs in vernal pools and alkali flats. This species is more commonly found in vernal pools of southern California. The nearest reported occurrence of prostrate vernal pool navarretia is approximately 20 miles to the south of the Project Area in the Great Valley Grasslands State Park. Potentially suitable habitat for this species occurs within the alkali habitats adjacent to the Project Area along West Main Avenue.

1.11 Sanford's arrowhead (*Sagittaria sanfordii*) – Rare Plant Rank 1B.2

This species occurs in standing or slow-moving freshwater ponds, marshes, and ditches. It flowers May to October. Freshwater marshes within the San Joaquin River crossings provide potentially suitable habitat.

Chapter 2 Invertebrates

2.1 Conservancy Fairy Shrimp (*Branchinecta conservatio*) - Federally Endangered, State Endangered

Conservancy fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapaces (hard shell), and 11 pairs of swimming legs. Males range from 0.6 to 1.1 inches long, with females measuring slightly smaller, between 0.6 and 0.9 inches (USFWS 2012a), making them the largest of the endemic Central Valley fairy shrimp. They glide gracefully upside down, swimming by beating their legs in a complex, wavelike movement that passes from front to back. Conservancy fairy shrimp, like many other branchiopods, feed on algae, bacteria, protozoa, rotifers, and bits of detritus.

Conservancy fairy shrimp occur in vernal pools found on several different landforms, geologic formations, and soil types. The majority of sites inhabited by this species of fairy shrimp are relatively large and turbid pools (USFWS 2012a), with a mean size of 6.89 acres (Eriksen and Belk 1999). Populations within the Central Valley have been located in northern hardpan pools in swales of old braided alluvium (Eriksen and Belk 1999). This species has a relatively long maturation and reproductive period, and is typically found with other branchiopod species with long maturation and reproductive periods, such as the vernal pool tadpole shrimp and vernal pool fairy shrimp (Helm and Vollmar 2002).

The historical distribution of Conservancy fairy shrimp is not known, but it is likely Conservancy fairy shrimp once occupied suitable vernal pool habitats throughout a large portion of the Central Valley and southern coastal regions of California (USFWS 2012a). The alkaline pool adjacent to the Project Area provides marginally suitable habitat for Conservancy fairy shrimp, although this

alkaline pool is considerably smaller (0.30 acres) than the pools in which this species is typically found (mean 6.89 acres) (Helm 1998).

2.2 Longhorn Fairy Shrimp (*Branchinecta longiantenna*) - Federally Endangered

The longhorn fairy shrimp ranges in size from 0.5 to 0.8 inch long. Its morphology is similar to the Conservancy fairy shrimp. Longhorn fairy shrimp are distinguished from other fairy shrimp by the male's extremely long second antennae (USFWS 2012b).

Longhorn fairy shrimp are found in sandstone or basalt-flow depression basins to small swale and earth slump, with a grassy or, occasionally, muddy bottoms in grassland habitats (Eriksen and Belk 1999). Despite occurring in clear, neutral pools with low total dissolved solids in portions of their range, longhorn fairy shrimp have also been observed in turbid, alkaline pools in the Carrizo Plain vernal pool region and at the proposed Alkali Sink Conservation Bank east of Mendota in Fresno County.

Known populations of longhorn fairy shrimp include: (1) areas within and adjacent to the Carrizo Plain National Monument, San Luis Obispo County; (2) areas within the San Luis National Wildlife Refuge Complex, Merced County; (3) areas within the Brushy Peak Preserve, Alameda County; (4) areas within the Vasco Caves Preserve, near the town of Byron in Contra Costa County; and, (5) areas within the proposed Alkali Sink Conservation Bank east of Mendota in Fresno County (USFWS 2012b). Potentially suitable habitat for this species occurs in the alkaline pool and swale adjacent to the Project Area.

2.3 Vernal Pool Tadpole Shrimp (*Lepidurus packardi*) – Federally Endangered

Vernal pool tadpole shrimp are small crustaceans (0.6 to 3.3 inches long) found primarily in vernal pools of California's Central Valley. Vernal pool tadpole shrimp reach sexual maturity in as little as 3 and 4 weeks. Consequently females can deposit as many as 6 clutches in a single wet season (USFWS 2007a).

Populations of vernal pool tadpole shrimp occur in a variety of ephemeral wetland habitats including vernal pools, vernal swales, ponded clay flats, alkaline pools, ephemeral stock ponds, and roadside ditches. This species inhabits clear to highly turbid water, with water temperatures ranging from 50 to 84°F (USFWS 2007a). The species is adaptable to soil and water conditions, but over 50% of known occurrences have been associated with High Terrace landforms and Redding and Corning soils (USFWS 2007a).

The vernal pool tadpole shrimp has a patchy distribution across the Central Valley of California, from Shasta County southward to northwestern Tulare County, with isolated occurrences in Alameda and Contra Costa Counties (USFWS 2007b). Potential habitat for this species occurs in alkaline pools/swales adjacent to the Project Area.

2.4 Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) – Federally Threatened

The vernal pool fairy shrimp was listed as threatened on September 19, 1994 (59 FR 48136). Critical habitat was originally designated on August 6, 2003 (68 FR 46683), then revised on August 11, 2005 (70 FR 46923). A 5-year review was completed in September 2007; no change in status was recommended (USFWS 2007c).

The vernal pool fairy shrimp is a small crustaceans ranging in size from approximately 0.12 to 1.5 inches in length. The vernal pool fairy shrimp can be distinguished from other *Branchinecta* species by the morphology of the male's second antenna and the female's third thoracic segment (on the middle part of its body) (USFWS 2007c). This species is endemic to California and southern Oregon.

Vernal pool fairy shrimp may occur in various seasonally ponded habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. It tends to occur in smaller pools measuring less than 0.05 acre. These are most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands (USFWS 2007c). The species has the ability to inhabit disturbed/constructed sites (e.g., road-side ditches) that are often not suitable for branchiopod species. Potential habitat for this species occurs in alkaline pools/swales adjacent to the Project Area along West Main Avenue.

2.5 Valley Elderberry Longhorn Beetle (VELB) (*Desmocerus californicus dimorphus*) – Federally Threatened

The VELB is a medium-sized, stout-bodied beetle with long antennae. Body lengths of males range from about 0.5 to nearly 1 inch, with antennae about as long as their bodies. Females are slightly more robust than males with somewhat shorter antennae. Adult males have red-orange elytra (wing covers) with four elongate spots. Adult females have dark colored elytra (USFWS 2006a).

VELB are strictly associated with elderberry plants (*Sambucus* spp.) in the Central Valley during its entire life cycle. Adults emerge in the spring from pupation inside the wood of elderberry plants as they begin to bloom. The exit holes used by the emerging adults are small oval openings. The adults eat the elderberry foliage until about June when they mate. Females lay their eggs on crevices on the bark. Upon hatching, the larvae tunnel into the tree where they spend 1-2 years eating the interior wood, their sole source of food (Barr 1991).

A blue elderberry shrub was observed in near the outlet of the Harding Drain at the San Joaquin River during a reconnaissance survey in 2014 (Horizon 2014a). Blue elderberry plants are potentially present in riparian habitat along the San Joaquin River and along other drainage features. Therefore, VELB may occur in the Project Area.

Chapter 3 Fish

3.1 North American green sturgeon [Southern DPS] (*Acipenser mediostris*) – Federally Threatened, State Species of Concern

The southern distinct population segment (DPS) of the Green Sturgeon includes the spawning populations of green sturgeon south of the Eel River (exclusive), principally the Sacramento River green sturgeon spawning population. Green sturgeon use both freshwater and saltwater habitat. As adults, green sturgeon live most of their lives in nearshore oceanic waters, bays, and estuaries. Juveniles and adults are benthic feeders, and juveniles have been reported to eat mysid shrimp and amphipods in the Sacramento–San Joaquin River Delta (Delta) (Radtke 1966 in Moyle 2002); adults may eat small fish and macroinvertebrates (Moyle 2002).

Mature adult green sturgeon move into large, turbulent freshwater rivers to spawn (Moyle et al. 1992a in Moyle, 2002). Spawning occurs once the fish are more than 15 years old and is then believed to occur every 2 to 5 years (Moyle 2002). Green sturgeon migrate to fresh water in late

February and spawn from March to July, with peak spawning occurring from April to June (Moyle et al. 1995). Each female produces 60,000 to 140,000 eggs (Moyle 2002). Specific spawning habitat preferences are unclear, but eggs likely are broadcast over bedrock or sand to cobble substrates (Moyle et al. 1995). Juvenile green sturgeon live in fresh and estuarine waters for 1 to 3 years before out-migrating to saltwater (Nakamoto et al. 1995; Moyle 2002). It is currently believed that green sturgeon spawn in the Klamath River and Sacramento River basins in California and in the Rogue River in Oregon (NMFS 2009a).

The main factor believed to be responsible for the decline of the southern DPS green sturgeon is the reduction in spawning habitat in the Sacramento River. There are numerous other threats, including insufficient freshwater flow rates at spawning areas, contaminants, entrainment, impassable barriers, influence of exotic species, small population size, elevated water temperatures, and by-catch of green sturgeon in fisheries, that could potentially affect the status of the southern DPS green sturgeon (71 FR 17757).

There have been anecdotal accounts of green sturgeon in the vicinity of the Project Area (Jackson and Van Eenennaam 2013), but this species is not expected to be present (Pers. Comm. Gutierrez, 2014).

3.2 Steelhead, California Central Valley DPS (*Oncorhynchus mykiss*) – Federally Threatened

The Central Valley Distinct Population Segment (DPS) of steelhead includes all naturally spawned anadromous steelhead below natural and manmade impassable barriers in the Sacramento River and SJR and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, but including two artificial propagation programs: the Coleman National Fish Hatchery, and the Feather River Fish Hatchery.

Steelhead are the anadromous form of rainbow trout. Steelhead can reach up to 55 pounds in weight and 45 inches in length, though average size is much smaller. They are usually dark-olive in color, shading to silvery-white on the underside with a heavily speckled body and a pink to red stripe running along their sides.

For steelhead, water quality is a critical factor during the freshwater residence time with cool, clear, and well oxygenated water needed for maximum survival (Moyle 2002). Juvenile steelhead (ages 1+ and 2+) occupy deeper water than fry and show a stronger preference for pool habitats with ample cover, as well as for rapids and cascade habitats (Dambacher 1991). Juveniles generally occupy habitat with large structures such as boulders, undercut banks, and large woody debris that provide feeding opportunities, segregation of territories, refuge from high water velocities, and cover from fish and bird predators (Moyle et al. 2008).

Central Valley steelhead are opportunistic predators of aquatic and terrestrial insects, small fish, frogs, and mice, but their primary diet consists of benthic aquatic insect larvae, particularly caddisflies (*Trichoptera*), midges (*Chironomidae*), and mayflies (*Ephemeroptera*) (Merz, 2002). Depending on season and steelhead size, they also may eat salmon eggs, juvenile salmon, sculpins, and suckers (Merz 2002).

Central Valley steelhead exhibit flexible reproductive strategies that allow for persistence in spite of variable flow conditions (McEwan 2001). Adult Central Valley steelhead typically migrate upstream in October through February, though earlier or later migration may occur. Spawning occurs in December through March; incubation and fry emergence occurs between January and May (NMFS 2009a). Juveniles typically rear in freshwater for a longer period (1 to 3 years) than other salmonids, with both juveniles and adults spending varying amounts of time in fresh and salt water (McEwan 2001). Most sub-adults/adults reside in the ocean for 1 to 3 years before

returning to their natal streams in the Central Valley to spawn (Moyle 2002). Steelhead require cool fresh waters with sufficient dissolved oxygen and minimal turbidity for successful incubation and rearing. Juvenile steelhead require habitat with consistently cool temperatures as emigration is unlikely for juveniles prior to spending at least one full summer within their natal stream.

Estimates of historical and recent mean run abundance are 1–2 million and approximately 3,600, respectively (NMFS 2009a). The primary limiting factor for Central Valley steelhead is the inaccessibility of more than 95% of its historic spawning and rearing habitat due to major dams (NMFS 2009a). Other limiting factors include small passage barriers, water development and land use activities, levees and bank protection, dredging and sediment disposal, mining, contaminants, fisheries management practices, hatcheries, inadequately screened water diversions, and predation by nonnative species (McEwan 2001; Moyle et al. 2008; NMFS 2009a).

The Merced River, which is upstream of the Project Area, supports a small run of steelhead. The SJR in the Project Area functions as migration habitat for steelhead. Juvenile rearing habitat is not present.

3.3 Chinook Salmon, Central Valley Spring-Run ESU (*Oncorhynchus tshawytscha*) – Federally Threatened or Nonessential Experimental Population, State Threatened

The Central Valley Evolutionarily Significant Unit (ESU) of spring-run Chinook salmon includes all naturally spawned populations in the Sacramento River and its tributaries in California, including the Feather River, and one artificial propagation program: the Feather River Fish Hatchery spring-run Chinook salmon program. There are only three remaining "stable" populations: Mill, Deer, and Butte Creeks, which are in close geographic proximity to each other (CDFW 2004). Naturally spawning populations have been extirpated from the SJR basin (Lindley et al. 2004).

Returning Central Valley spring-run Chinook migrate upstream as sexually immature fish in spring, hold through the summer in deep pools, spawn in early fall, and migrate downstream as juveniles after either a few months or a year in fresh water (Moyle et al. 2008). Spawning migration extends from February to early July with peaks in mid-April in Butte Creek and in mid-May in Deer and Mill Creeks (Williams 2006). Central Valley spring-run Chinook attain maturity at ages of 2 to 4 years. They generally migrate higher into watersheds than other runs in order to find deep pools where cooler temperatures allow over-summering (Moyle et al. 2008). Spawning often occurs in the tail waters of their final holding pool (Moyle 2002). Incubation lasts 40–60 days and is extremely sensitive to temperature, with high egg mortality at temperatures above 57 to 61°F. Fry emerge in another 4-6 weeks (Williams 2006).

Migration can begin within hours of emergence, after a few months of natal rearing, or after over-summering in the natal stream (Hill and Webber 1999; Moyle et al. 2008; Stillwater Sciences 2006). As Central Valley spring-run Chinook travel downstream, they may rear in the lower reaches of non-natal tributaries and along mainstem margin habitats, particularly for smaller fish that need to grow larger before ocean entry (Moyle et al. 2008). Juveniles feed mainly on zooplankton, benthic invertebrates, terrestrial drift, and larvae of other fishes, especially suckers (Moyle 2002; Moyle et al. 2008).

Estimates of historic abundance indicate about 700,000 spawners, which has declined to a current level of and 500 to 4,500 spawners (NMFS 2009b). Three primary limiting factors to Central

Valley spring-run Chinook have been identified: loss of most historic spawning habitat due to impassable dams; degradation of remaining habitat; and, genetic threats from the Feather River Dish Hatchery spring-run Chinook salmon program (NMFS 2009b). Other limiting factors include water diversions, unscreened or inadequately screened water diversions, excessively high water temperatures, predation by nonnative species, urbanization and rural development, logging, grazing, agriculture, mining, estuarine alteration, fisheries management, and "natural" factors (Moyle et al. 2008; NMFS 2009b).

Central Valley spring-run Chinook salmon ESU have recently been reintroduced to this portion of the SJR (SJRRP 2014). Spring-run Chinook salmon are the focus of salmonid restoration efforts under the San Joaquin River Restoration Program. Effective August 11, 2014, spring-run Chinook salmon including those that have been released or propagated, naturally or artificially, within the experimental population area [defined as the San Joaquin River from Friant Dam downstream to its confluence with the Merced River (exclusive)] are designated a non-essential experimental population (78 CFR 79622).

3.4 Hardhead (*Mylopharodon conocephalus*) – State Species of Concern

Hardhead are distributed widely in low- to mid-elevation streams in the main Sacramento–San Joaquin River drainage, as well as in the Russian River drainage. Their range extends from the Kern River to the Pit River. In the SJR drainage, populations are scattered in the tributary streams. In the Sacramento River drainage, hardhead are present in most of the larger tributary streams, as well as in the Sacramento River.

Hardhead range in size from 11.5 to 23.5 inches. Adults have a brown or dusky bronze back with silvery sides and underside, although juveniles may lack the brown coloration altogether. Breeding males may develop white tubercles laterally along the body and snout. Hardhead typically are found with Sacramento pike minnow (*Ptychocheilus grandis*) and Sacramento suckers (*Catostomus occidentalis*).

Hardhead become sexually mature in their third year (Moyle 2002). Spawning may begin as early as April and extend as late as August, depending on location (Moyle et al. 1995; Moyle 2002; Wang 1986 in Moyle et al. 1995). Spawning is presumed to occur in gravel riffles (Moyle 2002). The incubation period is unknown. Hardhead are bottom feeders, and their diets are size-dependent. Small fish (less than 7.8 inches) feed on mayfly larvae, caddisfly larvae, and small snails (Reeves 1964 in Moyle et al. 1995), and larger fish feed on aquatic plants, crayfish and other large invertebrates (Moyle et al. 1995).

A primary factor affecting hardhead populations is the introduction of predator fish—in particular, the smallmouth bass (Brown and Moyle 1993 in Moyle et al. 1995; Gard 1994 in Moyle et al. 1995; Moyle et al. 1995). Another factor is habitat loss due to dams and diversions, which create unsuitable temperatures and flow regimes.

Hardhead have recently been observed in SJR near the confluence with the Stanislaus River (Merz 2014). Therefore, this species may possibly be within the Project Area.

3.5 Sacramento Splittail (*Pogonichthys macrolepidotus*) – State Species of Concern

Sacramento splittail are confined mostly to the Delta, Suisun Bay, and the lower Petaluma and Napa rivers. They are typically found in slow moving sections of rivers and sloughs (Moyle 2002). Sacramento splittail reach maturity in approximately 2 years. Onset of spawning is

believed to be correlated to rising water levels, increased temperatures and increased day length (Moyle 2002). Spawning usually peaks in March or April, when water levels are typically high, providing access to flooded vegetation. Eggs hatch in roughly a week and the larvae's swim bladder usually inflates a week after that (Moyle 2002). Larvae start feeding on small invertebrates, switching to benthic invertebrates such as clams as they grow larger. Sacramento splittail can live up to 8 years (Moyle 2002).

Threats to Sacramento splittail are many. Sacramento splittail's historical range has been lessened through damming and levees along the rivers, which prevent inundation of the floodplain needed for spawning as well as larval development. Since larval development typically takes place in the Delta, splittail are subjected to a multitude of pesticides and pollutants, and while their effect is not known, it's not likely to be positive. Splittail are also competing heavily with invasive species.

Sacramento splittail distribution within the SJR fluctuates. During wet years, Sacramento splittail have been observed upstream of the Project Area. During dry years, the species is not common upstream of the Tuolumne River confluence (Moyle 2002). Due to the variability of the species distribution based upon flow volumes, Sacramento splittail is considered potentially present in the Project Area.

3.6 Pacific Lamprey (*Lampetra tridentata*) – Federal Species of Concern

Pacific lamprey are found in stream along the Pacific coast. In California they occur in rivers and streams north of Malibu Creek in Los Angeles County (Moyle 2002). Pacific Lamprey can still be found in nearly all of their original spawning grounds, though it is thought that runs are smaller now than they were historically.

Like all lampreys, the Pacific lamprey is eel-like in form, have sucker-like, jawless mouths (oral disk), no scales, and breathing holes instead of gills. Adult Pacific lampreys can be distinguished by three large, sharp teeth and posterior teeth on the oral disc (Moyle 2002). The two dorsal fins are slightly separated, while the second dorsal fin is continuous with the caudal fin.

Juvenile lamprey (ammocoetes) prefer soft sand or mud substrate in rivers, where they can filter feed on the surface of the substrate. They do not remain in any given area long. The ammocoete stage is thought to last 5-7 years, or until the ammocoete reaches 5.5-6.3 inches (Moyle 2002). At this point they metamorphose, gaining the ability to tolerate salt water and developing a sucking disc. They also change color from brown to blue with silver sides. Once the metamorphosis is complete they outmigrate in winter and spring during the high flows. Once in saltwater they are predatory, feeding on fish such as salmon, as well as flatfish (Moyle 2002).

Adults reach sexual maturity when they are between 11.5 and 30 inches, and make their way back into spawning streams. Both sexes assist in constructing the nest, which consists of gravel with stones on the downstream end (Moyle 2002). Adults mate several times, covering the eggs with silt and sediment after each time. After mating both sexes usually die, however some adults have been found to repeat spawn (Moyle 2002).

Threats to Pacific lamprey include damming and diverting rivers and streams, and pollution (Moyle 2002). Pacific lamprey has been observed in the SJR upstream and downstream of the Project Area (Hanni et al. 2006). Various lifestages may be present year-round, although spawning habitat is not present. Therefore, this species may possibly be in the Project Area.

3.7 Kern Brook Lamprey (*Entospherus hubbsi*) – State Species of Concern

Kern Brook lamprey are endemic to the east side of the San Joaquin Valley; Friant-Kern Canal, east of Delano, in Kern County, California, which provides ammocoete habitat but not spawning habitat; and the lower reaches of the Merced River, Kaweah River, Kings River, and SJR (Moyle et al. 1989; Moyle 2002). Kern brook lampreys may also occur in the upper SJR between Millerton Reservoir and Kerckhoff Dam, as well as in the Kings River above Oine Flat Dam (Fresno County) (Moyle et al. 1989; Moyle 2002). The abundance of Kern Brook Lamprey is hard to determine because of the similarity between the lamprey species.

Adult Kern Brook lamprey are typically 7 inches or less in total length (Moyle 2002). Adults have small, poorly developed oral disc with two rounded, nonfunctional teeth. Adults are dark on the back and sides and yellow to white on the underside. Ammocoetes can occasionally be distinguished by a dark tail and pigmentation of the head above the breathing holes (Moyle 2002).

Kern Brook lamprey prefer silty backwaters of large rivers in the foothills region. They require slight flow; therefore, reservoirs probably are poor habitats. Ammocoetes are usually found in shallow pools and along the edges of runs where flow is slight, at depths of 11.5–43 inches, and summer water temperatures rarely exceed 77°F (Moyle et al. 1989). Commonly associated with sand, gravel, and rubble substrates, ammocoetes bury themselves in sand/mud substrate (Moyle et al. 1989). They probably require gravel-rubble substrate for spawning (Moyle et al. 1989).

Threats to Kern Brook lamprey include dams and other flow alterations that reduce silt-laden backwaters required by ammocoetes (Moyle et al. 1989). Diversions have fragmented the population. The Kern Brook lamprey has been observed in SJR in the vicinity of the Project Area (Moyle et al. 2009). Various lifestages may be present in the Project Area year-round, although spawning habitat is not present.

3.8 River Lamprey (*Lampetra ayresii*) – State Species of Concern

River lamprey is thought to occur throughout Pacific coast streams, but its occurrence in California includes tributaries of San Francisco Bay, such as the Napa River, Sonoma Creek, and Alameda Creek, as well as the Sacramento, San Joaquin, and Russian Rivers (Moyle et al. 1995; Moyle 2002). Although river lamprey are believed to be in decline, the exact status of this species is uncertain. Currently, very little information describing the abundance and distribution of river lamprey is available, perhaps largely in part because the species is often overlooked and seldom studied (Moyle 2002).

Adult river lamprey have two teeth and no posterior teeth on the oral disc (Wydoski and Whitney 2003), and grow to an average total length between 7 and 12 inches. Adults are dark on the back and sides with silvery yellow on the belly and dark pigmentation on the tail (Moyle 2002). Except for the last six to twelve months of life, Kern Brook lamprey and river lamprey are indistinguishable from each other (Kostow 2002).

Limited information is available regarding the life history of this species in California. Current accounts are based largely on information from Canadian populations (Moyle 2002). River lamprey is a semelparous (i.e., individuals spawn once and then die) anadromous fish with long freshwater rearing periods. Adults return to fresh water to spawn in fall and winter, but spawning usually occurs from February through March in gravely riffles in small tributary streams (Moyle 2002). Ammocoetes remain in silty backwater habitats, where they filter feed on various microorganisms for approximately 3–5 years before migrating to the ocean during late spring

periods (Moyle et al. 1995; Moyle 2002). Adult lamprey prey on other fish and may reach 6.7 inches in total length (Moyle et al. 1995).

Potential threats to river lamprey include habitat alteration and degradation due to dams, diversions, pollution, channelization/dredging, urbanization, and other factors (Moyle et al. 1995). The river lamprey has been observed in SJR in the vicinity of the Project Area (Moyle et al. 2009). Various lifestages may be present year-round, although spawning habitat is not present.

3.9 San Joaquin Roach (*Lavinia symmetricus*) – State Species of Concern

San Joaquin roach are generally found in small, warm intermittent streams, and isolated pools (Moyle 1976; Moyle et al.1982), although are most abundant in the Sierra foothills (Moyle 1976). San Joaquin roach are a robust species that have been found in relatively high temperatures (86-95° F) and low oxygen levels (1-2 ppm) (Taylor et al. 1982), in cold, well aerated clear streams (Taylor et al. 1982), in human-modified habitats (Moyle 1976; Moyle and Daniels 1982), and in the main channels of rivers. Stream width and depth seem to have little effect on population abundance.

San Joaquin roach are a small, bulky fish with a large head and small, downturned mouth. Adults grow to a total length of 3.9 to 4.7 inches. Adult San Joaquin roach are grey to blue on top with a silvery underside. Spawning adults may develop orange and red colorations on the chin and paired fins. San Joaquin roach are bottom feeders that primarily consume filamentous algae, but may also feed on crustaceans and aquatic insects (Moyle 1976).

San Joaquin roach are threatened mainly due to restricted habitat from dams, diversions, and artificial barriers. Introduced predators, such as largemouth bass and green sunfish, are further decreasing isolated populations. The SJR provides potentially suitable habitat for the San Joaquin roach. Therefore, the species may occur in the Project Area.

Chapter 4 Amphibians and Reptiles

4.1 Western Pond Turtle (*Actinemys marmorata*) – State Species of Concern

The western pond turtle occurs along the Pacific Coast of North America from Baja California and into Washington and British Columbia. In California, western pond turtles inhabit up to 90% of its historic range but in the Central Valley and west of the Sierra Nevada, but in dramatically reduced numbers (Jennings and Hayes 1994).

Western pond turtles are small to medium in size, with adults averaging 4.5-8.25 inches in shell length. From a distance, this species looks uniformly dark green or brown from head to tail. Upon closer inspection, the head and neck are flecked with khaki and brown markings.

Slow moving or slack water habitats, including ponds, lakes, rivers, streams, creeks, and marshes, are typical habitat for this species. Large amounts of vegetation, partially submerged logs, rocks, or open mud banks for basking are also a necessity. The diet of the western pond turtle is omnivorous ranging from aquatic plants, invertebrates, worms, amphibian eggs, crayfish, and fish.

Nests are located upland, generally within 500 feet of the water. Western pond turtle nesting season spans from late May to early July.

Suitable habitat for western pond turtle in the Project Area includes the SJR, natural drainages, and some drainage ditches. Therefore, this species may occur in the Project Area.

4.2 San Joaquin Whipsnake (*Masticophis flagellum ruddocki*) – State Species of Concern

Although whipsnakes can be found throughout most of the southern United States and most of Mexico, the San Joaquin subspecies is endemic to California, ranging from Arbuckle in the Sacramento Valley, southward to Kern County in the San Joaquin Valley, and westward into the inner South Coast Ranges. The San Joaquin whipsnake has been designated a species of concern by the state of California due to agriculture and urban land use changes resulting in habitat loss.

The San Joaquin whipsnake is slender with smooth scales, a think neck, and a large head and large eyes protected by supraocular scales. Adults range in color from tan, olive, brown, or yellowish brown, but lack the very dark head and neckband of other subspecies.

The San Joaquin whipsnake prefers habitats consisting of dry, open or nearly treeless areas, such as grassland or saltbush scrub, often taking refuge in rodent burrows, under shaded vegetation, or under debris. The species diet consists of large insects, bats, birds, bird eggs, amphibians, lizards, carrion, and other snakes.

Saltbush scrub on the inboard side of SJR levee near Station 1335 is potentially suitable habitat. This species was not observed in this location during surveys conducted for the Harding Drain Bypass Project (Horizon 2014b).

4.3 Giant Garter Snake (*Thamnophis gigas*) – Federally Threatened, State Threatened

The giant garter snake is endemic to the valley floor wetlands of the Sacramento and San Joaquin Valleys, occurring in a variety of emergent and agricultural wetlands. San Joaquin Valley subpopulations have suffered severe declines and possible extirpation in many areas, but populations are still supported in the northern and central San Joaquin Basin, and within the northern and southern Grassland National Wildlife Refuge (Miller and Hornaday 1999). The primary threats to the giant garter snake are habitat fragmentation, loss, and degradation.

The giant garter snake is one of the larger species of garter snakes reaching a total length up to 65 inches. The adults are dull brown with a dull yellow, mid-dorsal stripe. Giant garter snakes within the San Joaquin Valley tend to have indistinctive or no lateral stripes resulting in a checkered pattern. The underside is light brown or grayish. Giant garter snakes are highly aquatic and feed on small fish, tadpoles, and frogs (Miller and Hornaday 1999).

Giant garter snakes reach sexual maturity on average in 3 years for males and 5 years for females (58 FR 54053). The species breed in March and April, giving birth to live young in late July through early September (Hansen and Hansen 1990).

Habitat consists of (1) adequate water during the snake's active season, (2) emergent herbaceous wetland vegetation for escape and foraging habitat, (3) grassy banks and openings in waterside vegetation for basking, and (4) higher elevation upland habitat for cover and refuge from flooding. Giant garter snakes feed on small fishes, tadpoles, and frogs (Hansen and Hansen 1990).

The natural drainage on the east side of the SJR and freshwater wetlands within SJR provide marginal to potentially suitable habitat. The Harding Drain and other large ditches with emergent vegetation provide marginal habitat. This species was not observed during surveys conducted for the Harding Drain Bypass Project (Horizon 2014b).

Chapter 5 Birds

5.1 Tricolored Blackbird (*Agelaius tricolor*) – State Species of Concern

Although isolated colonies of tricolored blackbirds can be found in Oregon, Washington, Nevada, and coastal Baja California, greater than 99% of the total population of the species live in California, with 90% residing in the Central Valley most years (Shuford and Gardali 2008). Four years of censuses of all known California colony sites pointed to alarming declines in species numbers, from 369,359 in 1994 down to 162,508 in 2000 (Shuford and Gardali 2008). Habitat loss and degradation appear to be the greatest threat to tricolored blackbird numbers (Beedy and Hamilton 1999).

Tricolored blackbirds form the largest breeding colonies of any North American landbird (Cook and Toft 2005), historically selecting freshwater marshes dominated by cattails. Habitat loss and land use changes encouraged colony development within nettles, thistles, willows, Himalayan blackberry, and grain fields. The preferred breeding habitat is cattails and brushes near open water. Prior to breeding, tricolored blackbirds eat primarily grains. During the breeding season this species feeds on grasshoppers, beetles, weevils and many other insects.

There are several documented occurrences of tricolored blackbird in the vicinity of the Project Area; most these occurrences are concentrated in the lower Tuolumne River near its confluence with the SJR. In 2014, breeding was documented in a natural channel in the Modesto Regional Water Treatment Plant spray fields (UC Davis 2014). Therefore, this species may be present in the Project Area.

5.2 Burrowing Owl (*Athene cunicularia*) – State Species of Concern

Burrowing owls historic range stretched throughout most of California, with the exception of the coastal counties north of Marin and mountainous regions (Grinnell and Miller 1944). The present day range remains largely unchanged but local declines and extirpations have dramatically impacted species population.

The preferred breeding habitat for the burrowing owl is dry open rolling hills, grasslands, fallow fields, as well as disturbed lands such as golf courses, airports, road embankments, and agricultural areas (Trulio 1997; Gervais et al. 2003; Rosenberg and Haley 2004). Nests are composed of sandy soil with minimal vegetation around, and are dug out by other small animals. This species feeds on arthropods, small rodents, amphibians, reptile species, birds and carrion.

Suitable habitat is present within the Project Area. Evidence of burrowing owls was not observed during reconnaissance surveys (Horizon 2014a). The most recent sighting in the vicinity of the Project Area is from 2003 (CDFW 2014a; ebird.org 2014).

5.3 Golden Eagle (*Aquila chrysaetos*) – State Fully Protected

Golden eagles are one of the largest birds of North America, with adults weighing up to 15 pounds, reaching a length of about 3 feet, and a wingspan of up to 7 feet. Adults are brown with tawny on the back of the head and neck.

Golden eagles occur in a variety of habitats including forests, canyons, scrub lands, desert, grasslands, and oak woodlands. Large platform nests, often 10 feet across and 3 feet high, are

constructed on steep cliffs or in large trees. Golden eagles feed primarily on rabbits, hares, rodents, birds, and reptiles, but will consume carrion as well.

Golden eagles are commonly observed in the canyons and foothills to the west of the Project Area (ebird.org 2014). Foraging and nesting habitat in the Project Area is marginal, however, flyover is possible.

5.4 Swainson's Hawk (*Buteo swainsoni*) – State Threatened

The Swainson's hawk is a large raptor that breeds throughout much of the western U.S., Canada, and northern Mexico. Swainson's hawk typically winter in South America (Woodbridge 1998), but there are reports of the species wintering in the Delta (Herzog 1998). In California, 95 percent of Swainson's hawks are in the Central Valley (CDFW 2007) and about 85% of Swainson's hawks nests in the Central Valley are within riparian forest or remnant riparian trees (Woodbridge 1998).

The Swainson's hawk was listed as a threatened species in the state of California following a statewide survey conducted in 1979, estimating a 90% reduction in historic numbers (Bloom 1980). The dramatic decline in population was attributed to loss of nesting habitat, pesticide use in wintering areas, and loss or adverse modifications of foraging habitat.

This species feeds on ground squirrels, voles, and other small mammal prey during the breeding season. At other times of the year insects such as grasshopper and crickets are the primary prey. Swainson's hawks prefer riparian habitats due to the availability and distribution of large nesting trees near foraging areas of open grasslands or croplands.

Swainson's hawks nesting habitat is present in the SJR corridor and the natural drainage to the west of the river. Adjacent fields provide high quality foraging habitat. This species has been observed nesting and foraging in the Project Area (Horizon 2014b).

5.5 Northern Harrier (*Circus cyaneus*) – State Species of Concern

The northern harrier is a raptor reaching a total length of 16-24 inches, with 42 inch wingspan. Northern harriers have a long tail and white underside. Adult males differ slightly in appearance with a gray back, head, and breast and black wingtips while females are brown above and streaked below.

Historic ranges in California stretched from Oregon south to the Mexican border, occupying most wetland habitats under 8,000 feet. By the 1940s, "relatively small numbers" remained in the state through the summer to breed, mainly due to substantial loss of wetland habitats (Grinnell and Miller 1944). The present day range is similar, although overall numbers have been reduced and some local populations have been extirpated (Shuford and Gardali 2008).

Northern Harriers prefer open habitats with adequate vegetative cover, such as grasslands, a wide variety of freshwater wetlands, pastures, and croplands. Northern harriers nest on the ground within dense vegetative cover (MacWhirter and Bildstein 1996). Rodents and small birds are the main source of food.

Northern harriers have been observed in the Modesto WTP spray fields (ebird.org 2014). Additionally, flood irrigated pastures provide potential nesting habitat in the Project Area.

5.6 White-Tailed Kite (*Elanus leucurus*) – State Fully Protected

The White-tailed kite is a raptor reaching a total length of 15-17 inches and a wingspan of 42 inches. Adults are a pale gray with white head, underside, and tail. The species feeds mostly on small rodents, but will occasionally consume birds, large insects, reptiles, and amphibians.

White-tailed kites prefer habitat near agricultural areas, shrubland, grasslands, meadows, or emergent wetlands. Nests are placed 20-100 feet above the ground near the top of dense oak, willow, or other tree stand (Thompson 1975). Habitat loss is the leading cause for decreasing white-tailed kite numbers.

White-tailed kites have been observed in the Modesto WTP spray fields (ebird.org 2014). Additionally, riparian areas in the SJR provide potential nesting habitat.

5.7 Bald Eagle (*Haliaeetus luecocephalus*) – Federally Delisted, State Endangered, State Fully Protected

Adult Bald eagles grow to a total length of 30-37 inches with a wingspan of 72-90 inches and a bodyweight of 10-14 pounds. Bald eagles build platform nests in large trees 50-200 feet above ground, usually near a permanent water source (Ziener 1990). Females are slightly larger than males. Bald eagles are opportunistic foragers and consume a variety of prey including fish, waterfowl, small animals, and carrion.

Although no historical population data exists, bald eagles were widespread and abundant in California. Following World War II, the use of DDT resulted in shell thinning of bald eagle eggs and devastated populations nationwide to near extinction levels. Habitat loss also negatively impacted numbers. By the 1970s, less than 30 resident, breeding pairs remained within California, all within the northern portion of the state (CDFW 2014b). Conservation efforts have helped the species rebound nationwide. In 2010, there were 323 known resident, breeding pairs in California (CDFW 2014b). In addition to the resident population, hundreds of migratory bald eagles winter at lakes, reservoirs, riparian corridors and some rangelands and coastal wetlands throughout California.

Bald eagles have been observed in the canyons and foothills to the west of the Project Area and at the Modesto WTP (ebird.org 2014). The SJR provides suitable foraging and winter roosting habitat; nesting is unlikely.

5.8 Loggerhead Shrike (*Lanius ludovicianus*) – State Species of Concern

The loggerhead shrike is widely found in lower elevations throughout the U.S. except in portions of the Northwest and Northeast. Historically, loggerhead shrikes were classified as “common” to “abundant” throughout most of California (Grinnell and Miller 1944; Grinnell and Wythe 1927; Willett 1933). Although recent and historic breeding ranges remain similar, habitat loss and degradation has led to a downward trend in population and resulted in local extirpation throughout California (Sauer et al. 1996; Sauer et al. 2005). California loggerhead shrike populations are highest in areas of the Central Valley, Coast Ranges, and the southern deserts (Saucer et al. 2005), and in winter throughout the San Joaquin Valley, the south central coast, and the south-eastern deserts (Saucer et al. 1996).

Adult loggerhead shrikes can be identified by their grey head and back, black eye mask, and black wings and tail over a white body. Adults grow to a total length of 8-10 inches. In California, loggerhead shrikes prefer shrublands or open woodlands, requiring tall shrubs or trees for perching with a mix or grass cover and bare ground for hunting. The species feeds primarily on large insects, reptiles, amphibians, small rodents, and small birds (Craig 1978; Yosef 1996). Loggerhead shrikes lack talons associated with many other birds of prey, instead impaling its prey on sharp, thorny, multistemmed plants and barbed-wire fences (Yousef 1996; Pruitt 2000).

Suitable nesting habitat for loggerhead shrikes is present in SJR riparian areas (Horizon 2014a). Therefore, this species may occur in the Project Area.

5.9 Least Bell's vireo (*Vireo bellii pusillus*) – Federally Endangered, State Endangered

The least Bell's vireo (LBV) is one of four subspecies of Bell's vireo. All subspecies are similar in appearance (Kus 2002). LBV are small birds, measuring only about 4.5 to 5.0 inches long. They have short rounded wings and short, straight bills. They are recognized in breeding areas by their distinctive call (USFWS 2006b).

The LBV is an obligate riparian species in the breeding season. The species winters in southern Baja California, Mexico (USFWS 1998b). The species typically arrives in California breeding territories in mid-March to early April. Early to mid-successional riparian habitat is typically used for nesting (Kus 2002).

Historically, the Central Valley was considered the center of LBV's breeding range (USFWS 2006b), but prior to 2005 no LBV nests had been confirmed in the Central Valley for over 50 years. There is an historic record of LBV from the late 1920s in Del Puerto Canyon, which is west of the Project Area. In June 2005, a LBV nest was founded in a riparian restoration site at the San Joaquin River National Wildlife Refuge, which is approximately 10 mile north of the Project Area. Riparian scrub in the vicinity of Stations 320+00 to 333+00 (Figure 3.4-1, Sheet 6) provides potentially suitable breeding habitat for LBV, though vegetation cover may not be quite as dense the species' preferred breeding habitat.

Chapter 6 Mammals

6.1 Western Red Bat (*Lasiurus blossevillii*) – State Species of Concern

The western red bat is a medium-sized bat with adults weighing 0.2-0.5 ounces. Adults are reddish in color and have short, broad, and rounded ears with a short, plain nose. While in flight, a relatively long tail extends straight out giving the western red bat a distinctive silhouette against the sky as compared to other species (Barbour and Davis 1969).

In California, the western red bat occurs from Shasta County to the Mexican border, west of the Sierra Nevada. Western red bats prefer to roost in forests and woodlands from sea level up through mixed conifer forests (Zeiner et al. 1990), roosting anywhere from 2-40 feet in trees near riparian corridors fields, or urban areas. Adults feed on a variety of insects, specifically moths, crickets, beetles, and cicadas, foraging over a variety of habitats, including grasslands, shrublands, open woodlands and forests, and croplands

Western red bats make a relatively short migration from the summer ranges to the coastal lowlands south of San Francisco Bay during the winter months. Potential western red bat roosting habitat is present in the SJR corridor.

6.2 American Badger (*Taxidea taxus*) – State Species of Concern

The American badger a large member of the mustelid family, with a shaggy silver, gray coat and darker colored, white striped head. Characterized by stocky, powerful legs and 1.0-1.5 inch claws, the American badger is adept at digging. Adults can weigh between 12 and 24 pounds, with males larger than females.

Found throughout most of California except in the northern North Coast area, American badgers are most abundant in drier open stages of shrub, forest, and herbaceous habitats (Zeiner et al. 1990). American badgers burrow into loose soils, frequently reusing old burrows, but may also dig a new den each night (Zeiner et al. 1990).

American badgers main food source is fossorial rodents, but will also consume reptiles, insects, eggs, birds, and carrion, depending on the season and availability of food. Drier portions of the SJR floodplain provide foraging and dispersal habitat for American badgers. Therefore, this species may possibly be in the Project Area.

6.3 San Joaquin kit fox (*Vulpes macrotis mutica*) – Federally Endangered, State Threatened

The San Joaquin kit fox (SJKF) has a small, slim body with an average weight of 5 lbs. and stands about 12 inches tall. It has long legs, large ears, and a long bushy tail that tapers at the tip. The ears are conspicuously large and densely covered on the inside with stiff, white hairs. The summer coat is light buff to buff-gray on the back and white on the belly; its winter coat is grizzled gray on the back, rust to buff on the sides, and white beneath. The tail is distinguished by a prominent black tip (USFWS 2010).

The SJKF inhabits arid valley and foothill grasslands, sparsely vegetated scrub/shrub habitats (USFWS 1998a), and some agricultural and urban areas (Jensen 1972). San Joaquin kit fox use complex dens for shelter, protection, and rearing of young (USFWS 1998a). Dens may be used year round. Most dens are located in flat terrain or the lower slopes of hills, and are commonly found in washes, drainages, and roadside berms. San Joaquin kit fox are reputed to be poor diggers and are usually found in areas with loose-textured, friable soils (USFWS 1998a).

Minimal habitat for SJKF is present in the Project Area. Lands to the west of the Project Area provide linkages for populations to the south and north (USFWS 2010). Kit fox presence in the northern range may be dependent on occasional dispersing animals from populations to the south of Santa Nella (Constable et al. 2009).

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Appendix E – Assessment of Potential Effects on Fishery Habitat

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Assessment of Potential Effects of the North Valley Regional Recycled Water Program (NVRRWP) Reductions in Freshwater Discharges into the San Joaquin River on Fishery Habitat and Juvenile Salmon Survival

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AUGUST 2013

1. INTRODUCTION

The San Joaquin River provides habitat for a diverse assemblage of fish and aquatic macroinvertebrates. The river also serves as a migration corridor and juvenile rearing habitat for Chinook salmon. Results of previous studies have shown positive relationships between the flow in the San Joaquin River during the spring (e.g., March-May) and the survival of juvenile salmon as well as adult salmon escapement 2.5 years later. Currently the Modesto and Turlock waste water treatment plants (WWTP) discharge treated waste water into the San Joaquin River where it augments existing flows and therefore provides potential biological benefits to improved habitat conditions for salmon and other fishery resources. As shown in Table 1, the Modesto and Turlock WWTPs release an average of 25 cfs into the San Joaquin River with a range of average monthly flows of 12.9 – 51.4 cfs. The North Valley Regional Recycled Water Program (NVRRWP) is proposing that rather than discharging the treated and processed waste water into the San Joaquin River as is currently being done, the Modesto and Turlock treatment plants would recycle the waste water for other inland uses such as irrigation of farmland. The curtailment in WWTP discharges from these two plants into the river would result in an incremental reduction in river flows as shown in Table 1. For comparison, the average flow in the San Joaquin River during the spring months (March –May) of dry water years typically ranges from approximately 1,500 to 2,000 cfs while average flows in a normal water year typically range from approximately 3,000 to 4,000 cfs. Spring flows in a wet year typically range from approximately 8,000 to 14,000 cfs. The actual flow in the San Joaquin River varies substantially within and among years.

Table 1: Average monthly WWTP discharges to San Joaquin River in cfs from 2000-2012

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Modesto	31.4	38.2	35.2	10.1	7.0	0.0	0.0	0.0	0.0	0.1	5.1	17.7
Turlock	13.1	13.2	12.9	13.0	12.7	12.9	12.9	13.4	13.3	13.8	13.3	13.4
Total	**44.5**	**51.4**	**48.1**	**23.1**	**19.7**	**12.9**	**12.9**	**13.4**	**13.3**	**13.9**	**18.4**	**31.1**

Although the amount of spring discharges is relatively small compared to total river flows (e.g., for example the April average WWTP discharge is 23.2 cfs and the San Joaquin River mean April flow at Vernalis is 3,095 cfs), the removal of these discharges into the San Joaquin River would contribute to an incremental reduction in the water levels and flows in the river downstream of the discharge location. This reduction in river flow could potentially adversely affect habitat conditions in the river for fish and the survival of juvenile salmon during their spring migration from the river to coastal marine waters. The objective of this analysis is to evaluate the potential for adverse effects of a reduction in freshwater discharges to the San Joaquin River as a result of the proposed NVRRWP water recycling project on instream flows, fishery habitat and juvenile Chinook salmon survival and abundance.

2. APPROACH/METHODS

To assess the potential effects of reducing San Joaquin River flows as a result of implementing the water recycle program and curtailing the discharge of treated waste water to the river, Chinook salmon were selected as the indicator species for use in these analyses. Quantitative data on the relationships between San Joaquin River flows and habitat quality and availability, survival, and abundance are not available for other fish species inhabiting the river and therefore the potential effects of the proposed recycle project could not be quantified for these other fish species. Fall-run Chinook salmon are a species sensitive to changes in instream flows and other environmental factors such as exposure to seasonally elevated water temperature when compared to the greater tolerance of many of the resident and other migratory fish and therefore are considered to be a good indicator species for use in this assessment.

Fall-run Chinook salmon use the San Joaquin River tributaries for spawning and juvenile rearing. The juvenile salmon then migrate downstream through the lower river during the late winter and spring months. The greatest migration by juvenile salmon smolts occurs during March-May. The survival of juvenile salmon has also been shown to vary in response to changes in river flow during the spring migration period (SJRGA 2007). To assess the potential effects of changes in river flow four independent analyses were considered including (1) the predicted change in juvenile salmon survival as a function of river flow, (2) the predicted change in adult salmon escapement as a function of river flow during the spring outmigration period 2.5 years earlier, (3) changes in river habitat based on stage-discharge relationships developed for the river by the U.S. Geological Survey (USGS) and the location of the estuarine low salinity zone during biologically sensitive spring months, and (4) predicted changes in salmon abundance based on use of the California Department of Fish and Wildlife (CDFW) San Joaquin River fall-run salmon lifecycle simulation model (SalSim). By comparing historic flows to those flows without the addition of WWTP discharges we are able to simulate the potential effect that the removal of WWTP discharges will have on salmon from a variety of metrics.

2.1 Base Vs Adjusted Flow Conditions

To simulate the potential effects that the removal of WWTP discharge from the San Joaquin river system would have on potential salmon survival and abundance, it was first necessary to establish baseflow conditions in the river with the existing WWTP discharges and simulated river flow conditions without the contribution of the WWTP discharges. For purposes of these biological analyses, river flow at the USGS Vernalis gage was selected to represent baseflow conditions. Although the WWTP discharge occurs further upstream on the San Joaquin River, the flows at Vernalis were selected since the existing biological relationships between river flow and juvenile salmon survival, river flow and subsequent adult escapement, and Vernalis flows are a key driver in the SalSim lifecycle model. Average daily flows were compiled for the Vernalis gage from the USGS website for March, April and May, 1923-2012. In order to account for yearly variation, 5, 25, 50(mean) and 75 percentile flow data was used to represent "critical", "dry", "normal" and "wet" flow conditions. The daily average flow was used to create a monthly average. These average months are used to represent the "base" flow conditions in the lower San Joaquin River under existing conditions with the WWTP discharges in operation.

WWTP discharge levels were calculated using the average monthly discharge from the Modesto and Turlock plants for March, April and May for 2000-2012 (Table 1). These average monthly discharge rates were then subtracted from the corresponding average monthly river flow at the Vernalis gage to create the "adjusted" flow. The values for the base and adjusted flows were then entered into various survival models described below in order to predict how these changes in flow conditions may effect salmon survival and abundance.

Percent differences were calculated as:

$$\% = (1 - (\text{Adjusted flow}/\text{Base flow}))*100$$

2.2 Juvenile salmon survival-flow relationships

The San Joaquin River Agreement (SJRA) and Vernalis Adaptive Management Plan (VAMP) conducted a long-term scientific experiment to determine how juvenile salmon survival rates change in response to alterations in San Joaquin River flows and State Water Project (SWP)/Central Valley Project (CVP) exports with the installation of the Head of Old River Barrier (HORB). The survival studies were based on a mark-recapture experimental design in which juvenile fall-run Chinook salmon produced in the Merced River fish hatchery were coded wire tagged (CWT) and released into the San Joaquin River at Mossdale and Durham Ferry and subsequently recaptured downstream at Antioch and Chipps Island (SJRGA 2007). Additional CWT salmon were released at Jersey Point to act as a control. The ratio of CWT salmon recaptured from the upstream and downstream release sites was then used to calculate an estimate of juvenile salmon survival. The resulting survival estimates were then correlated with river flows measured at the Vernalis gage during the period of juvenile migration when the HORB was installed and when it was not installed. The relationship between survival estimates for juvenile salmon

based on recaptures at Antioch and Chipps Island were significantly related to corresponding estimates of survival based on adult salmon from the ocean fishery (SJRGA 2007), which improves the confidence in the use of the juvenile survival-flow relationship as the basis for this analysis. Regression analysis from these data was used as a predictive model to assess the potential change in juvenile salmon survival as a function of reducing river flow in response to the curtailment of the WWTP discharges. The flow-survival relationships with and without the HORB are shown in Figure 1. The regression equations used to predict the change in juvenile survival as a function of river flow during the spring migration period are:

With HORB

$$\text{Survival estimate} = 0.0001(\text{cfs})-0.2851$$
$$R^2 = 0.73$$

Without HORB

$$\text{Survival estimate} = 5e\text{-}6(\text{cfs}) + 0.1403$$
$$R^2 = 0.04$$

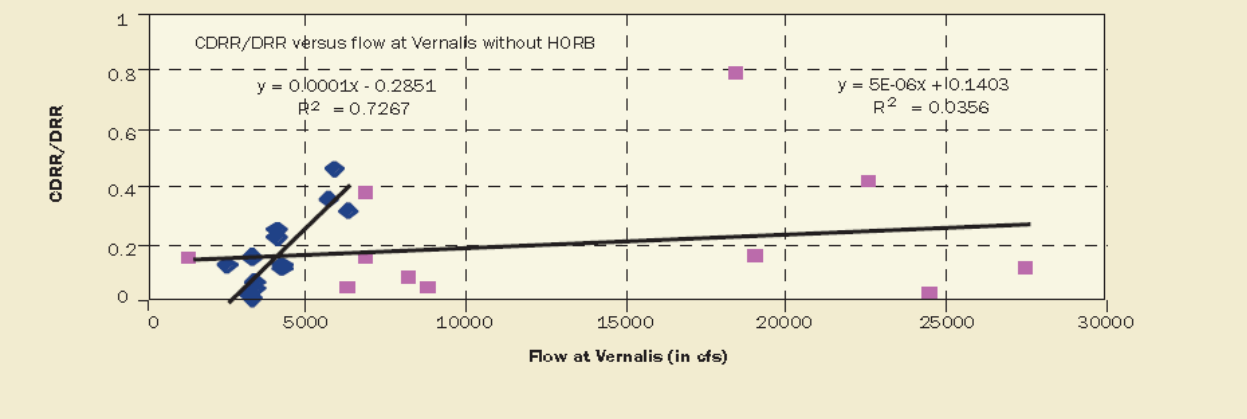

Figure 1: Relationships between juvenile salmon survival and flow in the San Joaquin River at Vernalis with and without the Head of Old River Barrier (HORB). The blue dots reflect flow-survival estimates when the HORB was installed and the red dots reflect flow-survival estimates when the HORB was not installed based on juvenile fall-run Chinook salmon mark-recapture experiments with tagged salmon released at Mossdale and Durham Ferry and recaptured at Chipps Island. Source: SJRGA 2007.

2.2.2 Escapement

Adult fall-run Chinook salmon return (escape) from the ocean and migrate through the San Joaquin River to spawn in upstream tributaries. Surveys have routinely been conducted by CDFW within the tributaries during the fall spawning period to quantify the number of spawning adults each year. Salmon escapement estimates are available for the period from 1952 through 2010 from the CDFW GranTab Chinook salmon escapement summaries. For these analyses, annual adult escapement to the Stanislaus, Tuolumne, and Merced rivers were combined to generate an annual estimate of fall-run Chinook salmon escapement to the San Joaquin River basin. No salmon currently spawn in the San Joaquin River between the confluence with the Merced River and Friant Dam, although restoration of

salmon populations in this reach of the river is underway. Although there are many factors effecting adult escapement and survival rates, studies have correlated San Joaquin River flows when juvenile salmon are migrating downstream in the spring with subsequent adult escapement in the fall 2.5 years later. For the analysis of changes in river flow presented in this assessment the average March-May flow in the San Joaquin River at the Vernalis gage from the USGS and DWR DAYFLOW data summaries were compiled each year. Regression analyses were used to establish a relationship between average spring river flow and subsequent adult salmon escapement 2.5 years later.

Regression analysis was used to predict escapement under the baseflow and adjusted flow conditions based on the following equation:

$$\text{Escapement} = 1.5879\ (\text{cfs}) + 11{,}458$$
$$R^2 = 0.32$$

2.2.3 River and Delta habitat

As flow through a channel increases the channel depth and/or wetted width increases, which may affect the area of usable habitat for juvenile salmon and other migrant and resident fish. As part of maintaining streamflow gages USGS periodically measures the stage-discharge relationship for each monitoring location. The shape of the stage-discharge curve is determined by the shape of the channel at the gage location. As the geomorphology of riverbeds change over time, regular stage-discharge surveys are necessary to insure accurate flow measurements at each gage. The most current stage-discharge relationship from the USGS gage at Vernalis (Figure 2) was used to simulate channel depths as an indicator of habitat conditions within the river with and without the WWTP discharges. Percent changes in the base versus adjusted flow conditions indicate predicted percent changes in salmon habitat with the removal of the WWTP discharge.

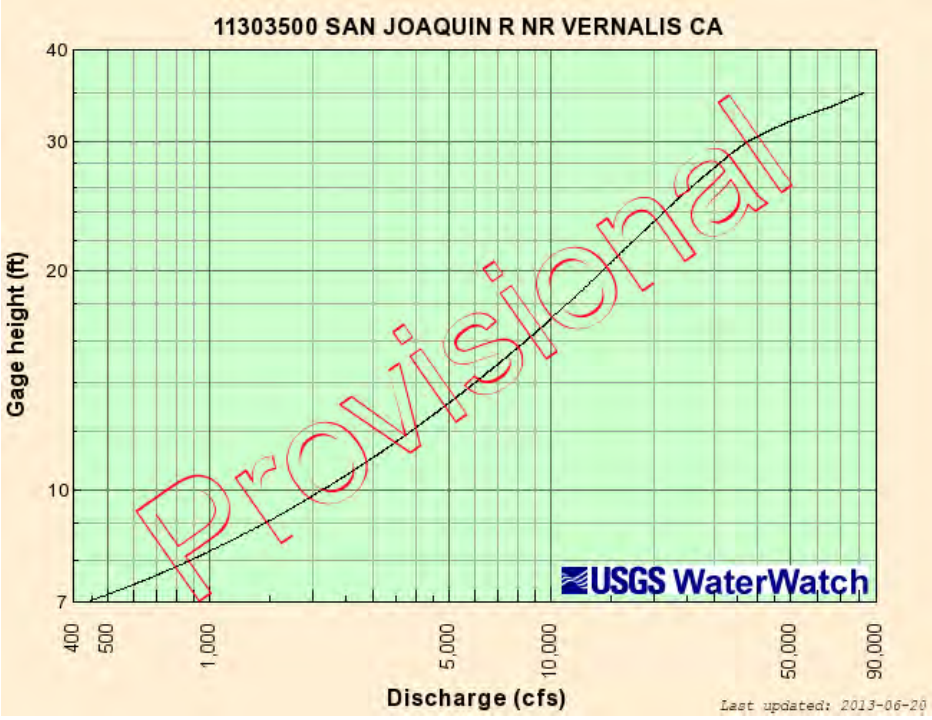

Figure 2: USGS stage-discharge relationship for the San Joaquin gage at Vernalis.

Habitat conditions for fish and other aquatic resources inhabiting the Delta and estuarine regions of the system have frequently been linked to the location of the low salinity zone. One indicator of the low salinity zone is the location, in kilometers upstream from the Golden Gate Bridge, where bottom salinity is 2 psu (referred to as X2 location). The location of the low salinity zone in the estuary is a function of the tides moving saltwater upstream from the ocean and bays and the magnitude of freshwater moving downstream from the Sacramento, San Joaquin, and other Central Valley rivers (referred to as Delta outflow). The relationship between Delta outflow and X2 location was used to assess the potential magnitude in changes of X2 location with and without the WWTP discharges. The analysis focused on X2 location during the biologically sensitive spring months of March-May. The change in X2 location was based on the following equation:

$$X2(t) = 10.16+0.945*X2(t-1)-1.487\log(Qout)(t)$$

where t=current day Delta outflow and t-1 is the X2 location on the previous day.

The analysis was run over Delta outflows ranging from approximately 3,500 to 23,000 cfs and assuming the total monthly WWTP discharge during March-May shown in Table 1.

2.2.4 SalSim

The CDFW has developed a lifecycle simulation model for fall-run Chinook salmon produced in San Joaquin River tributaries. The SalSim model (http://www.salsim.com/) is based on a series of

relationships between river flows, reservoir storage, water temperature, and a combination of other factors affecting survival and abundance in the upstream tributaries, within the lower San Joaquin River and Delta, and within the ocean. The SalSim model uses a variety of historic hydrological and biological data to simulate hypothetical flow conditions and the response of the Chinook salmon population. Although SalSim was not designed to be used as a "forecast model", altering the historic flows by known amounts generates alternative scenarios in which "what if" models can be used to simulate alternative salmon production through changes in historic water operations.

For this study, we simulated eight different flow conditions: critical, dry, normal and wet hydrologic conditions assuming baseline flows and adjusted flows at Vernalis without the WWTP discharges. The baseline conditions were generated by running the simulation without any changes to the flow conditions. The WWTP discharge reduction scenario (Adjusted) was simulated in the SalSim model by reflecting the percent change in river flow based on the WWTP discharge rates presented in Table 1. Because the simulation was run year round, rather than just during the spring, the WWTP discharge reduction calculations were calculated for an entire year. Total monthly WWTP discharges (Table 1) were subtracted from the monthly river flow at the USGS Vernalis gage under "Critical" (5 percentile), "Dry" (25 percentile), "Normal" (50 percentile or mean) and "Wet" (75 percentile) hydrologic conditions in the model. From these values, a percent change from the baseline flow was calculated.

SalSim was then used to simulate the changes in hydrologic conditions that would occur in the river with and without the WWTP discharges. SalSim produces a number of salmon population metrics for use in the analysis including ocean escapement, total spawners for all tributary spawning destinations, total spawning and egg production within the tributaries, total egg mortality, total juvenile salmon mortality and an estimate of the total number of juvenile salmon produced in the San Joaquin River tributaries entering the ocean assuming river flows with and without the WWTP discharges. The potential effect of changes in river flow on fall-run Chinook salmon population dynamics was assessed based on consideration of both the change in the abundance of various lifestages as well as the percentage change to account for variation in salmon abundance among years.

Results of the SalSim modeling produced a number of biological metrics for various lifestages of fall-run Chinook salmon under the baseline and proposed project hydrologic conditions. The model, however, does not allow changes to be made to instream flows in the San Joaquin River, but rather only allows flow changes in the model to occur in the upstream tributaries. By reducing flow in one of the tributaries to try to simulate the predicted flow reduction associated with the proposed project the model also changed upstream reservoir storage and associated seasonal water temperature conditions within the tributary that also affected the survival estimates for Chinook salmon (e.g., incubating eggs and juvenile rearing) within the tributary. Under these simulated conditions, results of the model became unstable and in some cases inconsistent with the general population dynamics of fall-run Chinook salmon. The initial results of the simulation model comparisons were not realistic or reliable. To help try to resolve these initial simulation model inconsistencies we met with Dale Stanton, an engineer with CDFW who is actively involved in development and evaluation of the SalSim model, to discuss how the model could be configured to simulate changes in San Joaquin River flows associated

with the proposed project, while not altering upstream reservoir operations and other aspects of the model. Mr. Stanton reported that the SalSim model was not developed to address changes in San Joaquin River flows such as those that would occur under the proposed project operations, and therefore, the model could not be used to reliably predict changes in San Joaquin River fall-run Chinook salmon abundance or population dynamics as an assessment tool for the proposed project evaluation. Based on these initial model results and consultation with CDFW the SalSim model was not subsequently used in these analyses.

3. RESULTS

3.1 Flow differences with and without WWTP discharges

Predicted changes to San Joaquin River flow when the WWTP discharge is removed (Adjusted flow) is on average less than 1% (ranges from 0.16 – 2.46%) of the total San Joaquin River flow (base flow) between March and May. Throughout the spring juvenile salmon migration season, the rate of WWTP discharges is reduced from an average 48.2 cfs in March to an average 19.8 cfs in May (Table 1). Dry, normal and wet years, as modeled by analyzing the 25th, 50th (mean) and 75th flow percentages from the Vernalis gage, showed that in dry and normal years, the net flow did not widely vary. Wet years, however show a steep increase in river flow during the March-May period. As a result, the net change in river flow at Vernalis is reduced in proportion to the change in baseflows within the river (Table 2). Results of these flow analyses were used in the comparative assessment of predicted changes to salmon survival and abundance with and without the WWTP discharges.

Table 2: Spring flow rates (cfs) for dry, normal and wet years, the average WWTP discharge rate (cfs) for their associated months and the percentage difference with and without the WWTP discharges.

	March			April			May		
	25th %	Mean	75th %	25th %	Mean	75th %	25th %	Mean	75th %
Base Flow (cfs)	1,957	3,481	9,178	1,600	3,095	10,392	1,739	3,470	12,126
WWTP Discharges (cfs)	48.2	48.2	48.2	23.2	23.2	23.2	19.8	19.8	19.8
Adjusted Flow (cfs)	1,909	3,433	9,130	1,577	3,072	10,369	1,719	3,450	12,106
% Change	**2.46%**	**1.38%**	**0.53%**	**1.45%**	**0.75%**	**0.22%**	**1.14%**	**0.57%**	**0.16%**

3.2 Juvenile Chinook salmon survival

Previous studies of juvenile salmon survival in the San Joaquin River clearly show that the presence of the HORB, used to keep juvenile salmon from migrating into Old River, greatly increases the likelihood of survival (Figure 1). As expected based on the regressions shown in Figure 1, the survival of juvenile salmon was extremely sensitive to increasing or decreasing river flows when the HORB was installed and

survival rates were not sensitive to river flow when the HORB was not installed. When the base and adjusted flow conditions were compared based on the juvenile salmon survival-flow regression models (Figure 1), the decrease in predicted survival with and without the WWTP discharges ranged from 0.000 to 0.005 for conditions with the HORB in place and were all 0.000 without the HORB (Table 3). Although changes in survival between the baseflow and adjusted flow conditions can be calculated using the regression models, the magnitude of these differences is so small that it could not be measured in field studies. The model predicts a moderately strong correlation between increased flow and increased survival (R^2 = 0.73) when the HORB is in place. Although there is still a positive relationship between survival and flow for conditions without the HORB, the statistical correlation is weak (R^2 = 0.04) and not statistically significant. The relatively high variability in the relationship between salmon survival and river flow, especially when the HORB is not installed, suggests that the predicted small change in survival shown in Table 3 is well within the observed variability in survival rates and would not be detectable in the river.

Table 3: Estimated change in juvenile Chinook salmon survival as a function of San Joaquin River flow with and without the Head of River Barrier (HORB).

	March			April			May		
	25th %	Mean	75th %	25th %	Mean	75th %	25th %	Mean	75th %
With HORB									
Baseflow survival	0.000	0.063	0.633	0.000	0.024	0.754	0.000	0.062	0.928
Adjusted flow survival	0.000	0.0.58	0.628	0.000	0.022	0.752	0.000	0.060	0.926
Net change	0.000	0.005	0.005	0.000	0.002	0.002	0.000	0.002	0.002
Without HORB									
Baseflow survival	0.150	0.158	0.186	0.148	0.156	0.192	0.149	0.158	0.201
Adjusted flow survival	0.150	0.157	0.186	0.148	0.156	0.192	0.149	0.158	0.201
Net change	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

3.3 Adult Chinook salmon escapement

The correlation between the springtime flow measured at the USGS Vernalis gage and returning adult Chinook escapement 2.5 years later show a positive trend and predict that a reduction in river flow will contribute to a reduction in the number of adult salmon returning into the San Joaquin River tributaries to spawn. The predicted change in adult salmon escapement, as calculated by the regression for river flow conditions during the March-May juvenile outmigration period, was a reduction in average escapement of 0.52% assuming the WWTP discharge to the river is no longer occurring (Table 4). The regression model predicts a reduction in salmon returns of 77, 37 and 31 individuals for March, April and May respectively, assuming no WWTP discharges. The total predicted reduction in escapement from a reduction in river flow over the March-May juvenile migration period is 145 fish out of predicted escapement estimates ranging from approximately 14,000 to 31,000 adults (less than 1%). The actual adult salmon escapement to the San Joaquin River basin varies substantially among years. The high variation in the escapement-flow relationship (R^2 = 0.32) suggests that the predicted small change in escapement is well within the observed variability in the relationship and would not be detectable in the river.

Table 4: Predicted change in adult salmon escapement with and without the WWTP discharges.

	March			April			May		
	25th %	**Mean**	**75th %**	**25th %**	**Mean**	**75th %**	**25th %**	**Mean**	**75th %**
Base Flow Escapement	14,566	16,986	26,032	13,999	16,373	27,959	14,219	16,968	30,713
Adjusted Escapement	14,489	16,909	25,955	13,962	16,336	27,923	14,188	16,936	30,681
Difference	77	77	77	37	37	37	31	31	31
% Change	**0.53%**	**0.45%**	**0.29%**	**0.26%**	**0.22%**	**0.13%**	**0.22%**	**0.19%**	**0.10%**

3.4 Habitat in the river and Delta

Changes in water depth as a function of river flow were used as an indicator of potential changes in habitat conditions and availability for juvenile salmon and other resident and migratory fish species. As flow increased through the San Joaquin River the stage height, and associated useable habitat, increased as well. The ranges of changes in stage height for base and adjusted flow remained fairly consistent for each seasonal condition. The reduction in river stage height (a reflection of water depth in the river) associated with curtailment of the WWTP discharges was estimated to range from 0.02 to 0.08 feet (Table 5). Differences between base and adjusted flow river stages varied consistently by less than 0.8% (Table 5) which is consistent with results of previous analyses. Much of the San Joaquin River channel has been incised or contained by levees. Under these conditions the predicted change in river stage would not be expected to result in biologically meaningful reductions in the quantity or quality (e.g., wetted channel width) of habitat for fish within the river.

Table 5: Changes in stage height (feet) as a function of river flow.

	March			April			May		
	25th %	**Mean**	**75th %**	**25th %**	**Mean**	**75th %**	**25th %**	**Mean**	**75th %**
Base Stage Height (ft)	9.75	11.60	16.56	9.23	11.17	17.44	9.44	11.59	18.59
Adjusted Stage Height (ft)	9.67	11.55	16.53	9.20	11.14	17.40	9.41	11.57	18.57
Change in Stage (ft)	0.08	0.05	0.02	0.03	0.03	0.04	0.03	0.02	0.02
% Change	**0.82%**	**0.43%**	**0.18%**	**0.33%**	**0.27%**	**0.23%**	**0.32%**	**0.17%**	**0.11%**

The predicted change in X2 location, a reflection of the low salinity zone habitat for estuarine fish and other organisms, moved upstream on average 0.06 km in March, an average of 0.03 km in April, and an average of 0.02 km in May. The magnitude of these changes would not be detectable in the field given the natural variation in X2 location based on variation in tidal conditions. In other environmental analyses an upstream movement of X2 location by less than 0.25 km (and in some cases less than 0.5 km) has been found to be less than significant. The magnitude of upstream movement of X2 in this

assessment is expected to have no effect on habitat quality or availability in the estuarine low salinity zone or on the aquatic species that inhabit the low salinity zone.

4. SUMMARY AND CONCLUSIONS

The two primary conclusions from this assessment are:

- Curtailment of treated waste water discharges from the Modesto and Turlock WWTPs into the San Joaquin River will result in an incremental reduction in river flow from the point of the existing discharge downstream. The reduction in San Joaquin River flow would contribute, based on the best scientific information available, to an incremental reduction in juvenile Chinook salmon survival during spring outmigration, a reduction in adult salmon escapement to the San Joaquin River tributaries, and an incremental reduction in habitat quality and availability in the lower river and estuary.

- The magnitude of predicted changes in juvenile salmon survival, adult escapement, and habitat conditions in the lower river and estuary was small (typically less than 1% when compared to current baseline conditions) and is well within the natural observed variation in the regression relationships used in these analyses. The magnitude of predicted changes in juvenile salmon survival and adult escapement, habitat quality and availability in the lower San Joaquin River, and the location of the estuarine low salinity zone (X2 location) would not be detectable in field studies and is considered to be less than significant.

Based on results of this study, curtailment of the discharge of treated waste water from the WWTPs at Modesto and Turlock into the San Joaquin River would not be expected to result in a measureable effect on the population dynamics of Chinook salmon. Since Chinook salmon are among the most sensitive fish species to changes in instream flows and other associated environmental factors (e.g., exposure to seasonally elevated water temperatures) the potential effects of the proposed curtailment of WWTP discharges to the river would be expected to be less for other resident and migratory fish inhabiting the San Joaquin River.

Literature Cited

San Joaquin River Group Authority (SJRGA) 2007. San Joaquin River Agreement 2006 annual technical report. Prepared by San Joaquin River Group Authority. Prepared for State Water Resources Control Board. January 2007.

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Appendix F – Draft Frac-Out Contingency Plan for Horizontal Directional Drilling

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Appendix F – Sample Frac-Out Prevention Plan for Horizontal Directional Drilling

Introduction

Horizontal Directional Drilling (HDD) methods are often employed to avoid direct effects to sensitive resources such as stream crossings and archeological sites. However, indirect effects to sensitive resources may occur as a result of the inadvertent release of drilling fluids. This document provides a brief summary of HDD procedures, including an explanation of the role of drilling fluids. (Forkert Engineering & Surveying, Inc., and Chambers Group, Inc. 2008)

The NVRRWP EIR/EIS evaluates two alternatives that may use HDD. The Combined Alignment Alternative has one crossing of the San Joaquin River near the existing discharge location for Modesto's Jennings Wastewater Treatment Plant, hereafter referred to as the "Modesto Crossing". The Separate Alignment Alternative has two crossings of the river, the Modesto Crossing, and a second crossing further south near the end of Turlock's Harding Drain Bypass Pipeline, hereafter referred to as the "Turlock Crossing". Both crossings would be constructed using some form of trenchless technology, which could either be HDD or microtunneling. Because HDD uses a pressurized slurry for the drilling process this technique presents the risk of an uncontrolled release of drilling fluid to the ground surface, known as "frac-out. Microtunneling uses a boring machine, and thus does not have the potential for frac-out. Because of the potential use of HDD for construction of a crossing of the San Joaquin River, this example frac-out plan is presented to describe potential measures to prevent frac-out or other environmental impacts associated with HDD procedures. If HDD is selected as the preferred trenchless construction method, this draft plan would be modified as appropriate for the crossing, as designed, and finalized by the selected contractor.

HDD Procedures

Conventional HDD operations have three main steps: the pilot bore, reaming and the pulling of conduit and/or casing. The pilot bore involves drilling the length of the bore with a small-diameter drill head to establish an accurate bore path. Once the entire bore path has been pilot-bored, a reamer is placed on the drill head. The reamer is then pulled back through the borehole to widen the hole (back-reaming). The final step entails attaching the conduit or casing to the drill head and pulling it back through the entire length of the borehole.

HDD operations for the Proposed Project are expected to range from 2,500 to 3,500 feet in length for the Modesto and Turlock crossings, respectively. The depth of the bore shall be at least 30 feet below the lower extent of the San Joaquin River. This depth shall increase as determined by site-specific conditions. The bores are required to maintain a minimum depth below the ground. Cobbles or rocky strata may cause the bore to go deeper to find an easier path.

General commitments to be enforced:

- Depth of bore below the riverbed shall be at least 30 feet;
- Drilling fluid materials and their respective Material Safety Data Sheets (MSDS) shall be disclosed; and
- Drilling fluids shall be monitored to assure pH values remain near neutral (between 6.5 and 8.0).

The contractor shall study the site-specific conditions for the river crossing. Based on this information, the contractor shall highlight potential problem areas, prepare an appropriate site specific plan and commit to employing all measures necessary to maximize the success of the HDD operation. For example, these measures may include substituting drill bits or reamers, altering the

viscosity of the drilling fluid, and introduce drilling fluid additives as indicated by soil types and varying substrates found throughout the bore profile. The contractor is required to evaluate the following information:

- Geotechnical report;
- Design plans showing the location of the river crossing;
- Summary of sensitive resources present or potentially present;
- Existing conditions of bed and bank (from field visit);
- Photos showing the existing setting; and
- Survey of bore site, including equipment staging areas, approximate location of drilling entry and exit (subject to minor change at time of construction due to soil conditions encountered during bore process), approximate location of access roads in relation to surrounding area.

Drilling Fluids

Typically, the drilling fluid is composed of two basic elements: water and clay particulates. The clay particulate component typically consists of bentonite. Bentonite is composed essentially of montmorillonite clay, which has a relatively high shrink-swell capacity. The structure of bentonite resembles a sandwiched deck of cards. When mixed in water, these cards or clay platelets rearrange for increased surface area exposure. Bentonite attracts water to its negative face and magnetically bonds to water molecules. Because of this unique characteristic, bentonite is capable of absorbing seven to ten times its own weight in water, and swelling up to eighteen times its dry volume. Together, the bentonite and water mixture acts to lubricate and cool the drill head, seal and fill the pore spaces surrounding the drill hole, prevent the bore hole walls from collapsing inward, and suspend cuttings (native soil removed during the boring process) within the drill hole.

In some cases, inert and non-toxic Loss Circulation Materials (LCMs) are added to the mixture. These materials include, but are not limited to, cotton dust, cotton seed hulls, wood fiber, M-1 mica and cedar fiber.

During typical HDD operations, some drilling fluids are absorbed by the lateral and subterranean fractures within the formation. This is a fairly normal occurrence during HDD operations that does not necessarily mean the drilling fluid is rising to the surface or migrating great distances from the borehole. However, it is possible that drilling fluids may reach the surface by following a vertical fracture in the formation. This event is commonly referred to as a hydro-geologic fracture (frac-out). The released drilling fluids may contain a lower concentration of bentonite when they surface because they can be filtered as they pass through certain types of ground material such as sandy soils. Materials used to control a frac-out may include straw bale, straw waddle, silt fence, and gravel bag. These materials would be kept at the boring site in quantities sufficient to contain a 40-foot perimeter around a frac-out.

Potential Impacts to Aquatic Biological Resources

The release of drilling fluid from fractures in the earth's surface may be terrestrial or aquatic in nature and varies in quantity. Terrestrial frac-outs occurring in upland areas are typically easy to contain and therefore result in relatively minor effects to the surrounding environment. Frac-outs occurring in aquatic environments are more difficult to contain primarily because bentonite readily disperses in flowing water and quickly settles in standing water. Bentonite is non-toxic, but there are two specific indirect effects of bentonite on aquatic life. Initially, the suspended bentonite may inhibit respiration of fishes, although this is typically short-lived. Once the bentonite settles, secondary long-term effects can result. For example, egg masses of fish could be covered by a layer of bentonite inhibiting the flow of dissolved oxygen to the egg masses. Secondly, benthonic invertebrates and/or the larval stages of pelagic organisms may be covered and suffocate due to

fouled gills and/or lack of oxygen (Forkert Engineering & Surveying, Inc., and Chambers Group, Inc. 2008). Because of the potential for impacts to aquatic species, this appendix provides a sample contingency plan to prevent frac-out and minimize effects if one should occur.

On-Site Monitoring

During pilot bore drilling operations, visual inspection along the bore path of the alignment shall take place at all times. Additionally, monitors shall be stationed approximately 50 feet upstream and downstream of the crossing point. On-site training shall be provided for all monitors, and names and phone numbers of the monitors shall be provided to the on-site agency representatives.

The contractor shall supply the following information to the monitoring team throughout the duration of the HDD operation at specific time intervals (e.g. upon completion of each drill rod):

- Position of the drilling head relative to the drilling point of entry;
- Estimated total volume of drilling fluid that has been pumped during the drilling operation;
- Comparison of the current total volume of drilling fluid used and the estimated current total volume of returns;
- Equipment breakdowns and repairs;
- Any abnormal drilling fluid pressure at the time of occurrence; and
- Any change of drilling fluid contents (e.g. new bentonite mixture or introduction of LCMs).

Field Response Plan

During the drilling process, the contractor shall adjust the thickness of the bentonite mixture to match the substrate conditions and ensure continuous flow. Subsequently, the contractor shall closely monitor drilling pressures and penetration rates so use of fluid pressure shall be optimal to penetrate the formation.

Some loss of returns may be inevitable as drilling fluids are absorbed by the lateral and subterranean fractures within the formation. In case of a gradual loss of approximately fifty- percent of expected returns, not including surface frac-outs, the contractor shall act to restore returns, including:

- Modifying drilling fluid properties (viscosity and gel strength);
- Modifying pressure and volume;
- Advance or retreat pilot stem and/or wash over pipe (i.e. swab the borehole); and
- Introduce LCMs according to manufacturer's instructions.

A complete and sudden loss of returns serves as a signal to both the contractor and the monitor that something more significant may be occurring and to watch closely for a possible surface release. This draft plan uses the loss of returns or pressure, the use of a tracing dye and visual indications, to trigger response and mitigation actions.

In the event of a sudden loss of approximately 75 percent of expected returns, or in the event that a surface release of drilling fluid or dye are detected, the contractor shall temporarily cease operations to determine what actions need to be taken. In areas containing sensitive resources, agency notifications shall be made and the decision to resume operations shall be determined in consultation with the appropriate agencies' representatives (see Item 7 of this plan). Any release to the surface shall be addressed in accordance with the release response plan (see below).

All equipment required to contain and clean up a frac-out release would be available at the work site. Equipment includes the following:

- Heavy weight plastic clean gravel filled sand bags (at least 20 bags);
- Geotek filter bags 10-by-12-foot size or equivalent (at least 3 bags);

- Several hard plastic (5-gallon) buckets;
- One wide heavy-duty push broom;
- Three flat blade shovels;
- Silt fence (appropriate coverage up to 40-foot perimeter);
- Certified weed-free hay bales (appropriate coverage up to 40-foot perimeter);
- Two bundles of absorbent pads to use with plastic sheeting for placement beneath motorized equipment while in operation in the vicinity of the riparian/stream zone;
- Straw logs (wattles or fiber rolls)(at least two 10-foot rolls);
- Portable pumps;
- A minimum of 100 feet of hose; and
- Vacuum truck (minimum 800-gallon).

All containment equipment would be kept on site at each bore location. General responses to frac-out releases are as follows:

- Directional boring would stop immediately;
- The bore stem would be pulled back to relieve pressure on frac-out;
- The Environmental Inspector would be notified to ensure adequate response actions are taken and notifications are made;
- Terrestrial releases would be cleaned up using on-site equipment;
- A dike/berm may be constructed around the frac-out (terrestrial only) to entrap released drilling fluid;
- Response equipment (e.g., portable pumps and fully equipped 800-gallon vacuum trucks) would be mobilized to recover larger releases of drilling fluid;
- Access to the frac-out release area would be via existing roads and temporary work easements. Additional access needed to perform cleanup activities would be coordinated with and require the approval of all regulating entities;
- All equipment or vehicles driven or operated adjacent to a water body or wetland would be checked and maintained daily to prevent leaks of hazardous materials.

The directional bore activities would be designed to avoid and otherwise minimize the potential for affects to sensitive biological and cultural resources. Additionally, the crew, with the guidance of on-site monitors and the Environmental Inspector (where the Environmental Inspector may also act as an on-site monitor), would construct barriers (i.e. straw bales or silt fences) around the perimeter of all sensitive resources (e.g. stream bank, riparian vegetation) prior to the commencement of work. This technique is aimed to prevent released material from reaching the sensitive resources.

In addition to the aforementioned procedures, the following containment procedures and commitments shall be implemented for all frac-out releases located within a water body:

- Measures to avoid in-stream disturbance (e.g., pulling the drill stem back and going deeper) and to prevent further frac-out would be implemented first.
- A standing pipe (such as a 55-gallon drum with the top and bottom removed, heavy PVC pipe or CMP or culvert type material) shall be placed around the frac-out to contain the drilling mud;
- Sand bags would be used (if necessary) to seal the base of the standing pipe;
- Any existing berms, barriers, or silt fence established to protect sensitive resources would be strengthened, as necessary, to contain drilling fluids and prevent their encroachment on

sensitive biological and cultural resources and divert drilling fluid from entering jurisdictional waters;

- Secondary containment (plastic sheeting) for the pump unit would be used;
- A trailer mounted vacuum or vacuum truck shall be deployed to vacuum out contained drilling fluids;
- Vacuumed drilling fluids shall be disposed in accordance with local, state and federal regulations;
- No refueling would occur within 100 feet of the stream zone, wetlands, and other sensitive habitats;
- All other response activities would take place within the authorized ROW unless otherwise approved in writing.
- The Environmental Inspector would notify the appropriate agencies.

Pre-construction surveys shall be conducted in accordance with Mitigation Measures defined in this EIR/EIS by qualified biologists to identify all species potentially affected by drilling operations;

Notification and Documentation

If a frac-out occurs or any degree of dye were detected within the water column of the stream, the Environmental Inspector shall immediately notify the appropriate resource agencies, and additional follow-up response actions would be developed in coordination with agency representatives. The following entities shall be contacted by phone with a written report to follow:

- California Department of Fish and Wildlife (CDFW)
- Regional Water Quality Control Board (RWQCB)
- California State Lands Commission
- United States Fish and Wildlife Service (USFWS)
- National Marine Fisheries Service (NMFS)
- United States Army Corps of Engineers

Documentation of environmental compliance would include written reports of observations, documentation of events and follow-up, and project tracking. The following forms of documentation shall be submitted to the noted agencies on a timely manner:

- Pre-construction geotechnical evaluations at major bore sites would be provided to CDFW and RWQCB prior to construction.
- Monthly Monitoring Reports would summarize construction activity and daily monitoring logs for the previous month of construction, and would be provided to the resource agencies as required by applicable permits.
- Post-Construction Summary Report would summarize the construction activity and monitoring results for the Project, and would be submitted to the resource agencies.

Training of Project Personnel

Prior to the commencement of construction, the contractor's personnel shall attend a training session on-site. The training session shall cover the following topics:

- Details of the information found within the contractor's project-specific frac-out plan;
- Specific permitting conditions and requirements;
- Requirement to retain copies of all appropriate permits on the site during all operations;
- Sensitive resources located at or near the site;

- Requirement to monitoring during all operations;
- Situations that invoke a halt of operation;
- Proper lines of communication;
- Proper lines of authority and responsibility;
- Information the contractor shall provide to the monitoring personnel and project owner's site representative;
- Contact names and phone numbers of the appropriate individuals and agencies; and,
- Types of events that the contractor is required to report and to whom.

The contractor shall provide an overview of the drilling operation in their work plan. The training session shall ensure that contractor personnel recognize the authority of the on-site monitors to stop drilling.

The focus on environmental orientation would be to both educate and motivate all project personnel to minimize disturbance to the surrounding environment and to take actions to protect sensitive resources. Knowledgeable environmental compliance team members would be available to answer questions and provide relevant information as requested. The worker orientation program would inform project workers of their responsibilities in regards to sensitive biological resources. The Environmental Inspector would serve as a contact for issues that may arise concerning implementation of protection measures, and to document and report on adherence to these measures.

References

Forkert Engineering & Surveying, Inc., and Chambers Group, Inc. July 2008. Horizontal directional drilling: contingency and resource protection plan for construction of the AT&T Fiber Optic Cable Installation Project, Clark County, Nevada and San Bernardino County, California. Prepared for AT&T

Appendix G – Evaluation of NVRRWP Impact on Groundwater

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DRAFT Technical Memorandum (TM)

NVRRWP - Groundwater Impact

Subject:	**Evaluation of NVRRWP Impact on Groundwater**
Prepared For:	Del Puerto Water District, City of Modesto and City of Turlock
Prepared by:	Reza Namvar
Reviewed by:	Ali Taghavi
Date:	July 23, 2014
Reference:	0453-003 NVRRWP Phase 3

1 Introduction

The proposed North Valley Regional Recycled Water Program (NVRRWP) is being developed as a regional solution to address water supply shortages and reliability concerns by utilizing recycled water for beneficial use[1]. The proposed NVRRWP would deliver recycled water produced by the Cities of Modesto and Turlock to the Del Puerto Water District (DPWD).

Currently, wastewater generated by the City of Turlock is being treated and discharged to the San Joaquin River. The City of Modesto treats and discharges to the San Joaquin River during winter months, with no discharge during the summer months. With the proposed NVRRWP, this recycled water will be discharged to the Delta-Mendota Canal (DMC) and delivered to DPWD via the DMC.

1.1 Objective

This Technical Memorandum presents the approach and results of analysis of NVRRWP impacts on groundwater in the vicinity of the San Joaquin River from the project area to the Vernalis station, located approximately 25 miles downstream from the Turlock recycled water discharge location.

1.2 Approach

The NVRRWP would result in reduction of stream flows in the San Joaquin River as no more recycled water from Cities of Modesto and Turlock would be discharged to the San Joaquin River under the project conditions. The impact of reductions in the San Joaquin River streamflows on groundwater under the NVRRWP conditions was analyzed using the California Department of Water Resources (DWR) California Central Valley Groundwater-Surface Water Simulation Model (C2VSim). The existing conditions baseline (EC Baseline) version of C2VSim was used for this analysis. The EC Baseline model was configured to run with and without discharges of recycled water by the Cities of Modesto and Turlock to the San Joaquin River. The changes in groundwater elevations and storage under the two EC Baseline model runs reflects the impact of the NVRRWP on groundwater.

2 C2VSim Model

DWR has developed the C2VSim model as a tool to aid in water resources management planning. C2VSim simulates water movement through the interconnected land surface, surface water and groundwater flow systems in the 20,000 mi^2 of the alluvial Central Valley aquifer. C2VSim dynamically calculates groundwater conditions based on urban and crop water demands; long-term hydrologic and meteorlogic records, land use, cropping patterns, and other inputs.

[1] http://www.nvr-recycledwater.org/

C2VSim has two versions based on resolution of the model grid. C2VSim coarse grid (C2VSim-CG) has a coarser grid with an average element area of approximately 14 mi^2 (9,200 acres) (Brush et al., 2013). C2VSim fine grid (C2VSim-FG) has a significantly finer grid with an average element area of approximately 410 acres (0.64 mi^2) (RMC, 2011). C2VSim-FG is refined around the streams as well as San Joaquin River with an average of 0.5 mile node spacing. The node spacing increases gradually away from the streams to an average of 1.5 miles. C2VSIM-FG has been used for analysis of many Central Valley wide or regional projects, including interaction of surface water and groundwater resources (RMC, 2014) C2VSim-FG was used for the analysis of NVRRWP groundwater impact. Figure 1 illustrates the C2VSim-FG grid in the vicinity of the NVRRWP. C2VSIM-FG model area is divided into 21 subregions to facilitate data entry and reporting of model results. The model output can be summarized to produce water budgets for each of 21 model subregions or the entire model area. Figure 2 illustrate the C2VSIM-FG subregions and DWR's Bulletin 118 groundwater basins in the project area.

2.1 Historical Simulation

C2VSim-FG uses a detailed database of monthly precipitation, land use, crop acreage, river inflow and surface water diversion information from October 1921 through September 2009 to calculate historical water use, groundwater pumping and changes in aquifer storage. This long hydrologic period incorporates the significant historical variations (dry, multiple dry, wet, and multiple wet years) in the Central Valley.

2.2 Existing Conditions Simulation

The EC Baseline version of C2VSim-FG was used for the analysis of NVRRWP groundwater impact. The simulation period for this version of C2VSim-FG is 88 years incorporating historical hydrology from 1922 to 2009. It applies current level of land use and water use to this hydrology. The EC Baseline model was configured for the following runs:

- EC Baseline with recycled water discharge to San Joaquin River
- EC Baseline without recycled water discharge to San Joaquin River

The changes in groundwater elevations and storage under the two model runs reflect the impact of the NVRRWP on groundwater.

3 Recycled Water Discharges

The City of Turlock discharges approximately an average of 8.5 million gallons per day (MGD) of recycled water to the San Joaquin River. This rate remains the same through the year. However, the City of Modesto only discharges recycled water to San Joaquin River from November to May with an average of 7.8 MGD with discharges ranging from zero MGD during June to October to a maximum of approximately 25 MGD in February. Figure 3 illustrates the monthly combined recycled water discharge rates from Cities of Modesto and Turlock.

4 Results

The two model runs based on EC Baseline version of C2VSim-FG were compared to evaluate the impact of NVRRWP on streamflows at Vernalis and groundwater storage and elevations.

4.1 Streamflows at Vernalis

The removal of recycled water discharges to the San Joaquin River by the Cities of Modesto and Turlock would result in reduced streamflows downstream from the discharge points. Comparison of the two model runs showed that the average monthly streamflows at Vernalis station would reduce by approximately 2,900 acre-feet (AF)/month in March to approximately 750 AF/month from June to October (Figure 4). The average annual streamflows at Vernalis station would be reduced by

approximately 18,000 AF/year. The average discharge of the San Joaquin River between 1924 and 2011 was 3.3 million AF/year. The reduction is San Joaquin River streamflows at Vernalis due to NVRRWP is approximately 0.5% of the average annual flows.

4.2 Groundwater Storage and Elevations

The reduction in San Joaquin River streamflows would result in changes in stream-aquifer interaction. Reduction of streamflows would increase stream gains from the aquifer when the stream is a gaining stream (i.e. groundwater levels are higher than stream levels). In contrast, reduction of streamflows would reduce stream losses to the aquifer when the stream is a losing stream (i.e. groundwater levels are lower than stream levels). The average monthly change in groundwater storage for C2VSim subregions 8 to 12 in the vicinity of the NVRRWP is presented in Figure 5. Groundwater storage is reduced from September to March; however, groundwater storage is increased from April to August. The average annual reduction in groundwater storage is approximately 27 AF/year (Table 1).

The annual changes in groundwater storage for C2VSim subregions 8 to 12 through the 88 years of simulation and under various hydrologic conditions are presented in Figure 6. The change in groundwater storage varies from approximately -280 AF/year to approximately 150 AF/year. The cumulative change in groundwater storage is also shown in Figure 6. Over the 88-year simulation period, NVRRWP would result in approximately 2,420 AF of less groundwater in storage in the project area (Figure 6 and Table 1). This is equivalent to 27 AF/year average loss of contribution to groundwater storage. This change in groundwater storage is less than significant and is considered negligible and well within the potential range of accuracy of C2VSim.

5 Conclusions

Based on the analysis performed using the C2VSim, the groundwater storage loss is approximately 28 AF/year which is not significant in the context of hydrology of the basin. The results indicate that the groundwater impact of NVRRWP in the area from the recycled water discharge points to the Vernalis station is minimal and not significant.

6 References

Brush, C.F., E.C. Dogrul, and T.N. Kadir, 2013. Development and Calibration of the California Central Valley Groundwater-Surface Water Simulation Model (C2VSim), Version 3.02-CG. DWR Technical Memorandum.

RMC, 2011. Refinement of spatial resolution of the C2VSIM. Technical Memorandum submitted to DWR.

RMC, 2014. Assessment of surface water and groundwater conditions and interaction in California's Central Valley – Insights to inform sustainable water management. Report prepared for The Nature Conservancy.

Table 1: Change in Groundwater Storage for C2VSim-FG Subregions in the NVRRWP Area

C2VSim Subregion	B118 Groundwater Basin	Change in Groundwater Storage	
		Average Annual (AF/yr)	Cumulative (AF)
8	Eastern San Joaquin, Cosumnes, South American	-7	-630
9	Tracy, Solano, Eastern San Joaquin, South American	-10	-900
10	Delta-Mendota	-5	-450
11	Modesto, Eastern San Joaquin	-3	-230
12	Turlock	-2	-210
13	Merced, Chowchilla, Madera	0	0
Total		**-27**	**-2,420**

Figure 2: C2VSim Grid in the NVRRWP Area

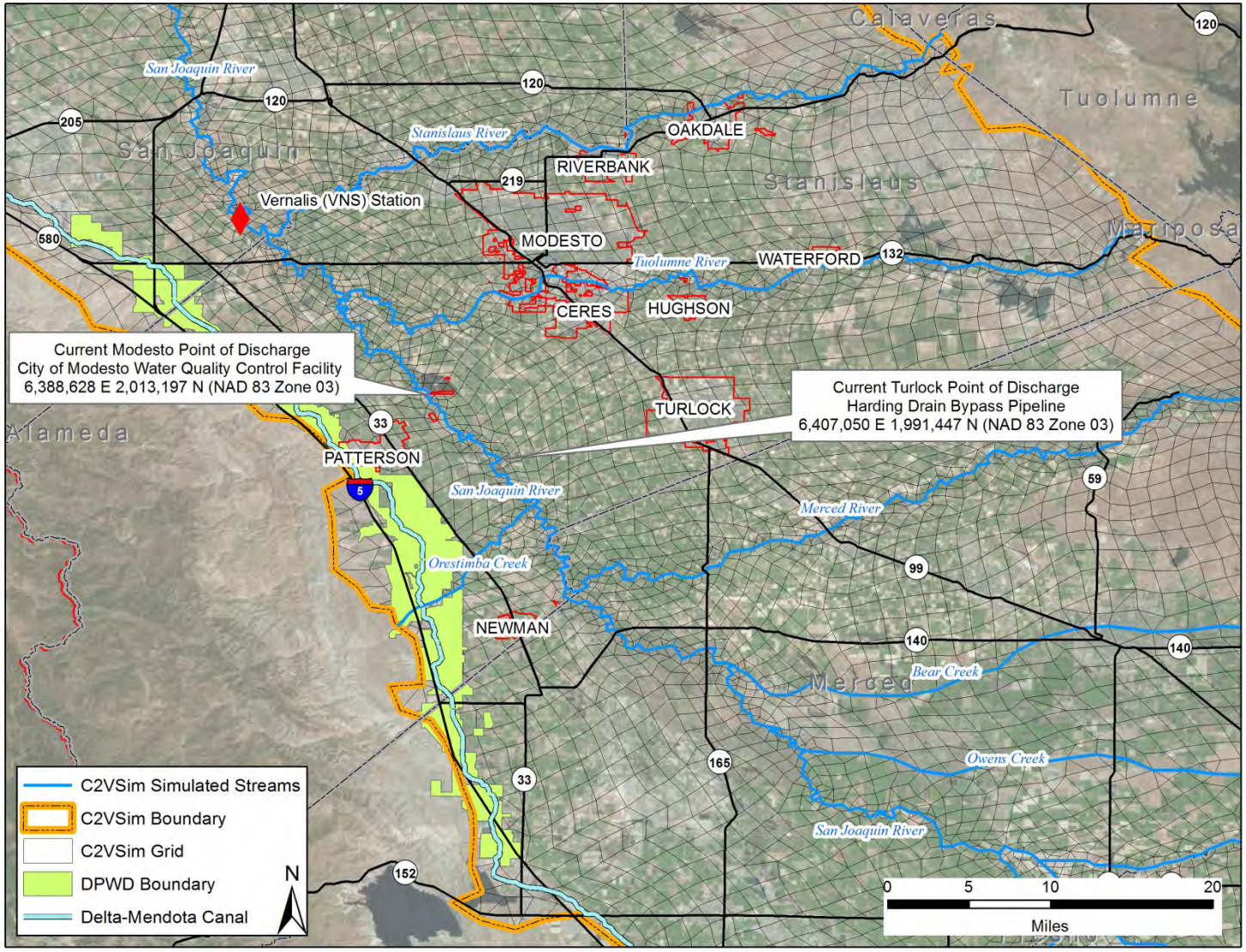


Figure 2: C2VSim Subregions and DWR Bulletin 118 Groundwater Basins in the NVRRWP Area

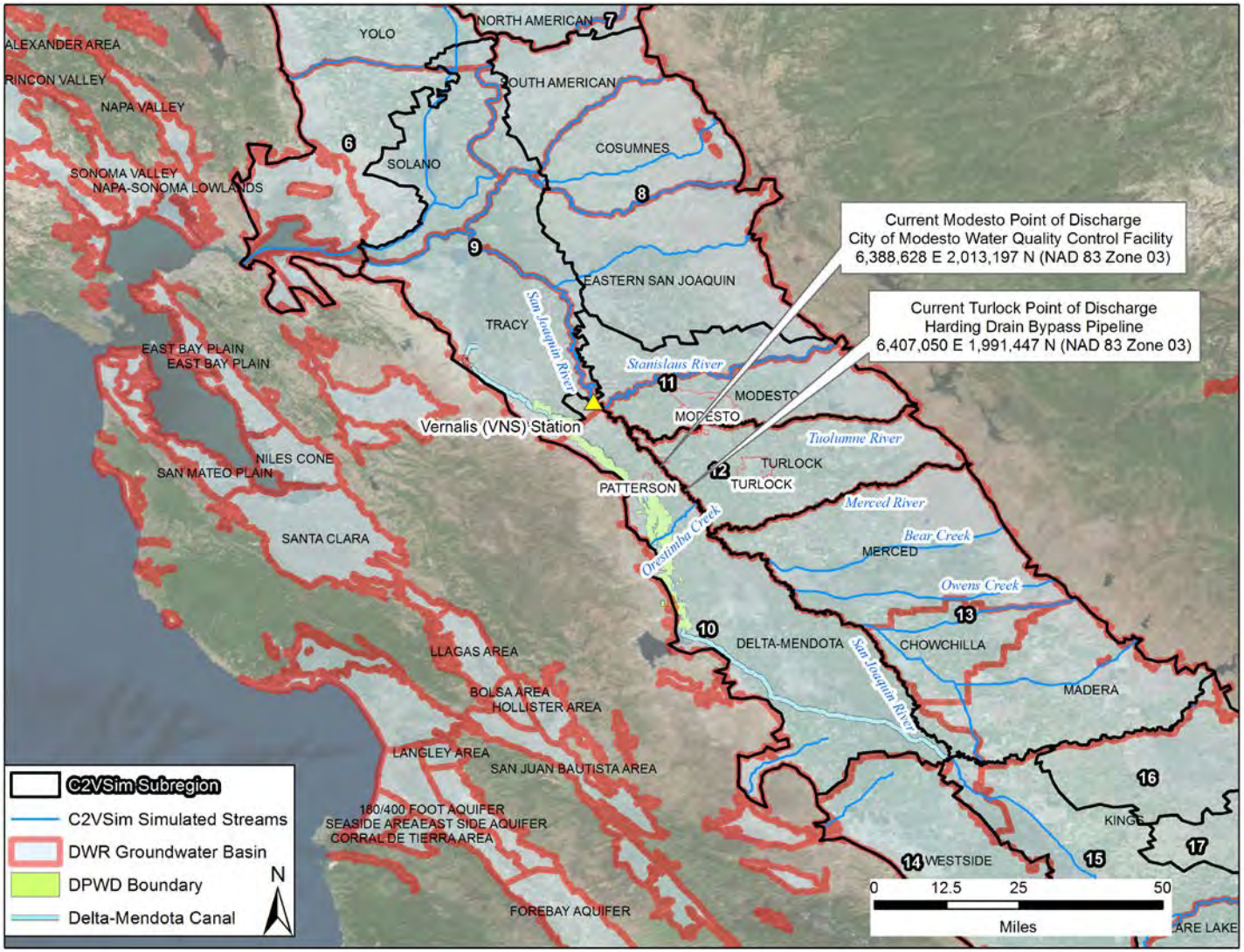


Figure 3: Cities of Modesto and Turlock average monthly recycled water discharges to San Joaquin River

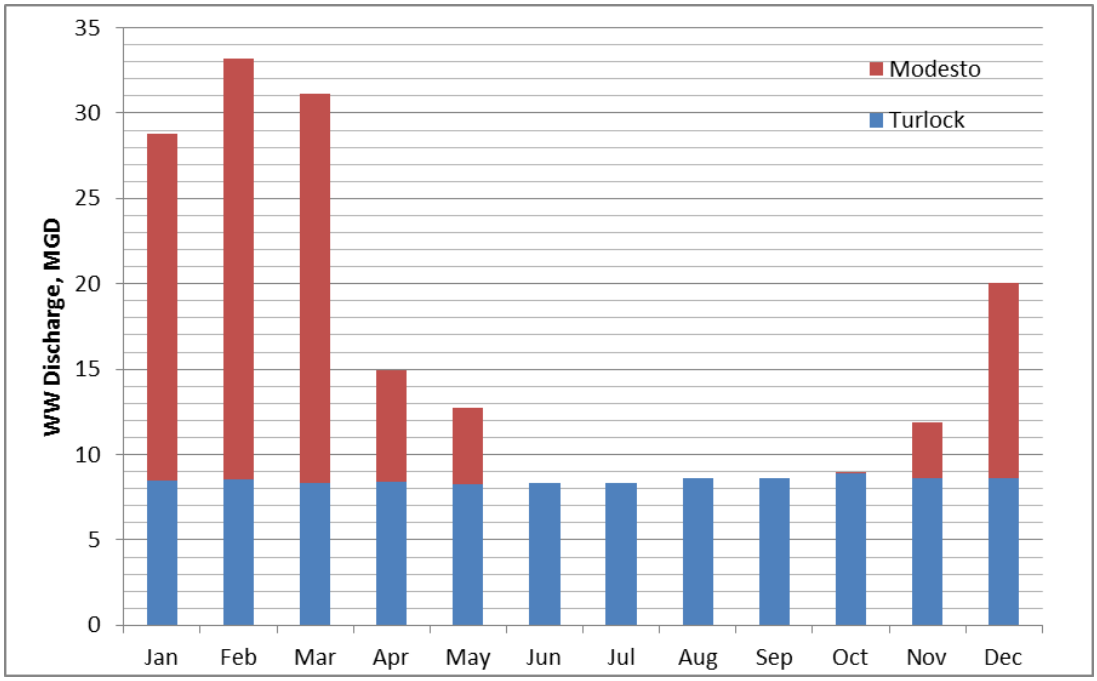


Figure 4: Average monthly reduction of San Joaquin River streamflows at Vernalis

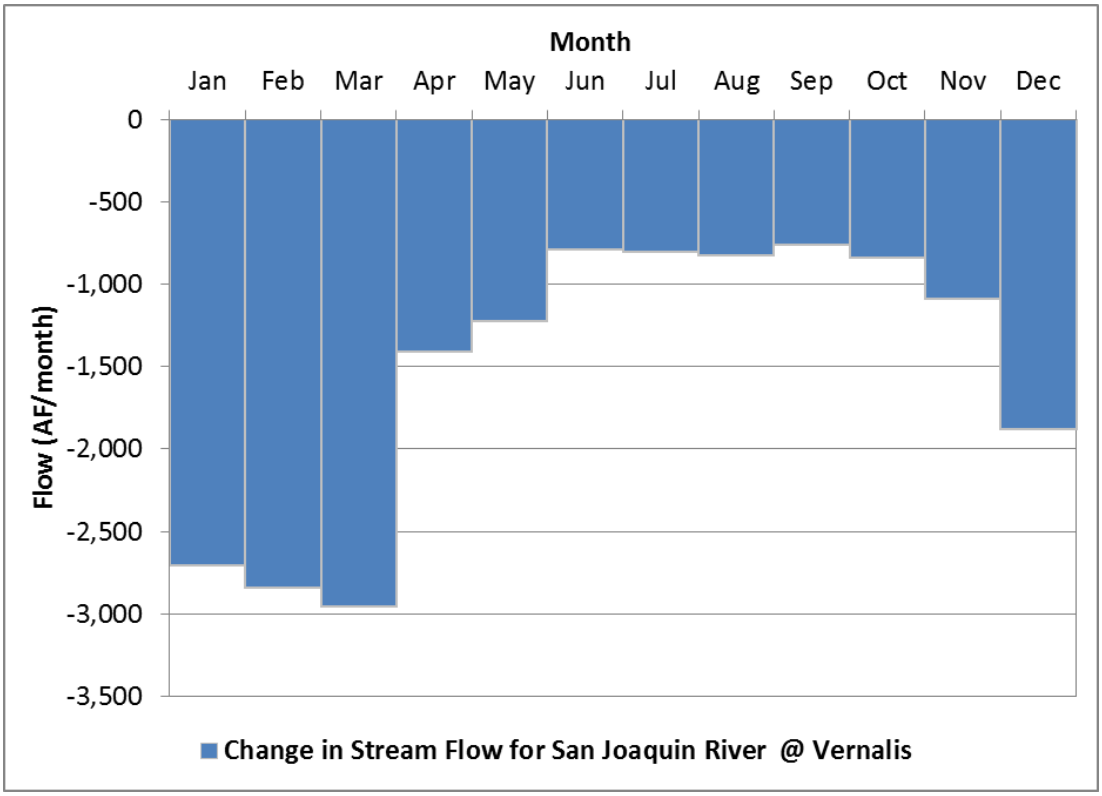


Figure 5: Average monthly change in groundwater storage for C2VSim subregions 8 to 12

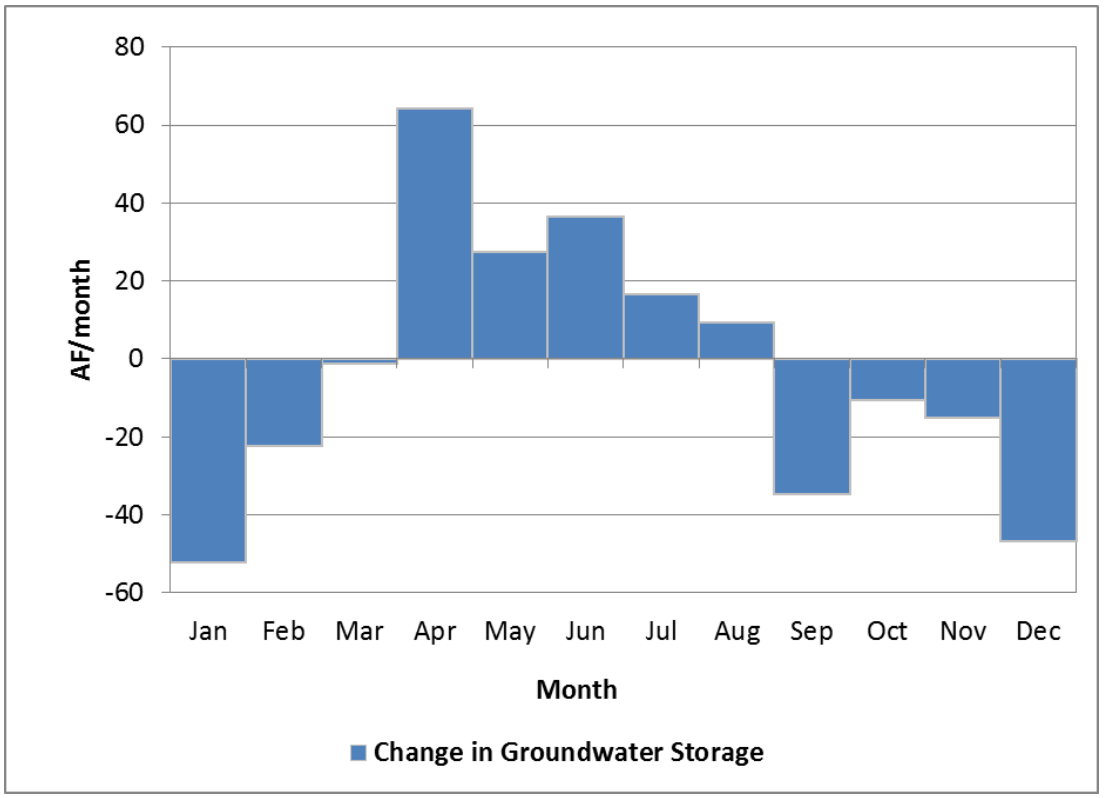
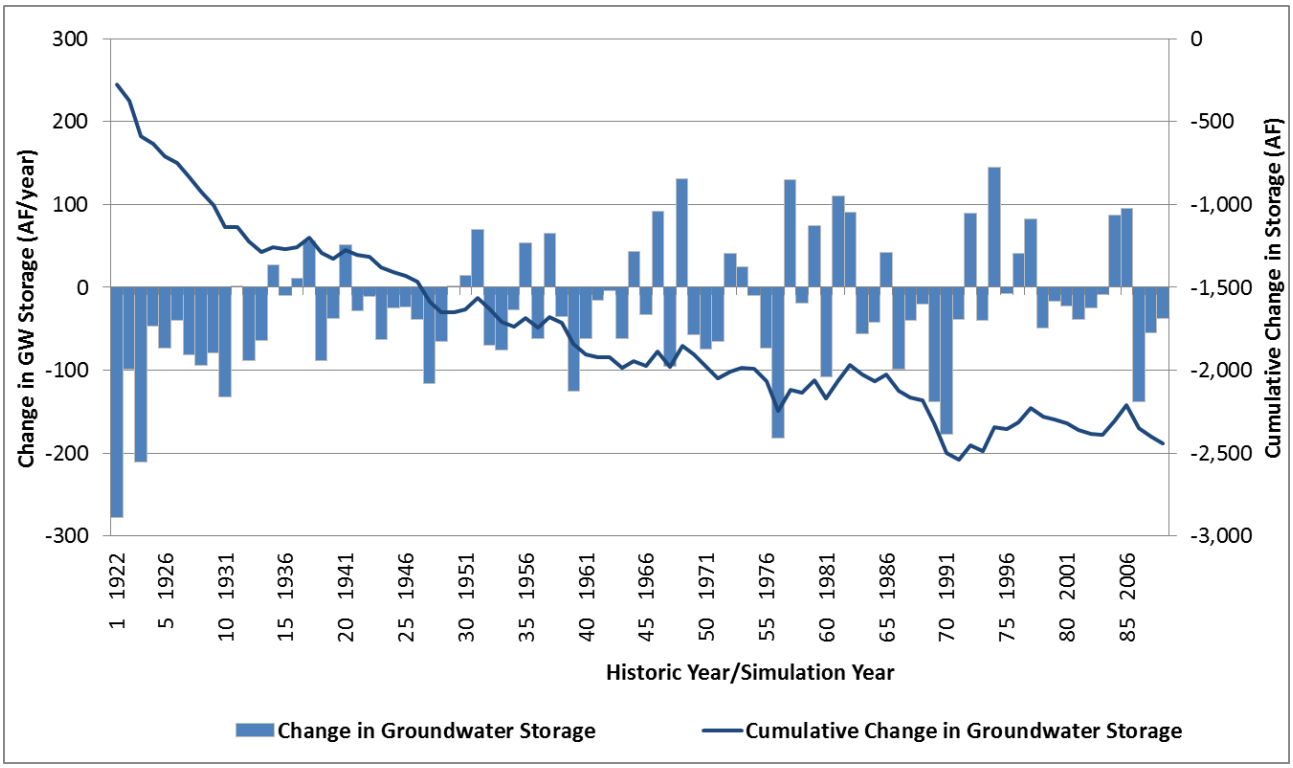


Figure 6: Cumulative change in groundwater storage for C2VSim subregions 8 to 12



Appendix H – Distribution List

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Appendix H Distribution List

Public circulation of the North Valley Regional Recycled Water Program (NVRRWP) EIR/EIS makes use of electronic media to ensure cost-effective access is made available to the public and interested parties. The Draft EIR/EIS is available online at the NVRRWP project website: http://www.nvr-recycledwater.org/documents.asp. The Draft EIR/EIS is also available for review at the locations listed below.

Persons, agencies and organizations listed in this chapter will be informed of the availability of the Draft EIR/EIS and locations where the document will be available for review, as well as the timing of the 60-day review period.

Document Availability

The Draft EIR/EIS is available for review at the Partner Agencies' main offices and at the Reclamation office in Fresno:

City of Modesto, Utilities Department
1010 Tenth Street, 4th Floor
Modesto, CA 95354

City of Turlock
156 S. Broadway
Turlock, CA 95380

Del Puerto Water District
17840 Ward Ave
Patterson, CA 95363

U.S. Bureau of Reclamation
1243 "N" Street
Fresno, CA 93721

Agencies and organizations receiving Notice of Availability of the Draft EIR/EIS are listed below. A notice of availability of the Draft EIR/EIS will also be sent to individuals and interested parties.

Federal and State Agencies

California Department of Fish and Wildlife, Region 3

California Department of Fish and Wildlife, Region 4

California Department of Planning and Research

California Department of Transportation (Caltrans) District 10

California Regional Water Quality Control Board, Central Valley

California Office of Historic Preservation

California State Lands Commission

California State Water Resources Control Board, Division of Financial Assistance

California State Water Resources Control Board, Division of Water Rights

NOAA National Marine Fisheries Service

U.S. Army Corp of Engineers, Sacramento District

U.S. Environmental Protection Agency, Region 9

U.S. Fish and Wildlife Service

Regional/Local Agencies

Central California Irrigation District

Central Valley Flood Protection Board

City of Ceres

City of Modesto

City of Modesto (East Stanislaus IRWM)

City of Patterson

City of Turlock

Kern County Water Agency

Merced County

Metropolitan Water District of Southern California

Modesto Irrigation District

Patterson Irrigation District

San Joaquin County

San Joaquin Valley Air Pollution Control District

San Luis & Delta-Mendota Water Authority

San Luis Water District

Santa Clara Valley Water District

Stanislaus County

Turlock Irrigation District

West Stanislaus Irrigation District

Westlands Water District

Other Interested Parties

Organizations	Individuals
Ducks Unlimited	Ryon Sellmon
Griffith & Masuda	Mark Serpa
Stanislaus Farm Bureau	Amber Madden
Stewart and Jasper	Michael George
The Nature Conservancy	
Robert Gioletti & Sons Dairy	
West Yost Associates	