

RECLAMATION

Managing Water in the West

Final Environmental Assessment
Eden Valley Irrigation and Drainage District
Farson F2 and F5 Laterals
Salinity Control Project
Sweetwater County, Wyoming

PRO-EA-16-014

Upper Colorado Region
Provo Area Office
Provo, Utah



U.S. Department of the Interior
Bureau of Reclamation
Provo Area Office
Provo, Utah

July 2019

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The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Final Environmental Assessment Eden Valley Irrigation and Drainage District Farson F2 and F5 Laterals Salinity Control Project

Sweetwater County, Wyoming
Upper Colorado Region
Provo Area Office
Provo, Utah

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**U.S. Department of the Interior
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Provo Area Office
Provo, Utah**

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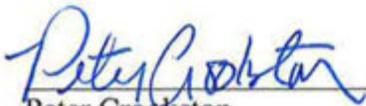
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FINDING OF NO SIGNIFICANT IMPACT

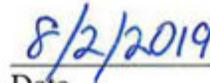
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Recommended by:



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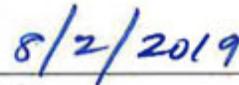


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I. Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Reclamation - Provo Area Office (Reclamation) has conducted an Environmental Assessment (EA) for a Proposed Action to replace approximately 5.1 miles of unlined, open canal along the Farson F2 (including F2B and F2D) and F5 Laterals in the Eden Valley Irrigation and Drainage District (EVIDD) irrigation system with a high-density polyethylene pipeline. The Farson-Eden area is located in southwest Wyoming, approximately 40 miles north of Rock Springs, Wyoming.

The EA was prepared by Reclamation to address the impacts associated with the Proposed Action. The Proposed Action is needed to increase the existing system's efficiency and reduce water loss due to seepage, evaporation, and operational losses. The purpose of the Proposed Action is to reduce canal maintenance and the salinity contributions from the existing earthen laterals, which is consistent with the purpose of the Colorado River Basin Salinity Control Program. Currently, approximately 25 to 30 percent of water that travels through the unlined laterals is lost to seepage and evaporation. The Project improvements are anticipated to reduce the salinity contributions to the Colorado River Basin by 1,619 tons annually.

Related NEPA Documents

Environmental Impact Statements, Environmental Assessments and Categorical Exclusions that are related to, but not part of the scope of this EA, include:

- Farson/Eden Salinity Control Project E-7, E-8 and Westside Lateral-Eden Project (PRO-EA-10-009)
- Farson/Eden Salinity Control Project Eden Canal, E-5 & E-6 Laterals (PRO-EA-11-007)
- Farson/Eden Salinity Control Project Lateral E-13 (PRO-EA-10-005)
- EVIDD Farson Lateral F-1 MOA Basin Fund Piping Project (PRO-CE-16-066)
- Farson/Eden Pipeline Project: Phase III M-1 & M-1B Laterals (PRO-CE-10-006)

II. Alternatives

The EA analyzed the No Action Alternative and the Proposed Action regarding the unlined, open canal along the Farson F2 and F5 Laterals.

No Action

Under the No Action Alternative, Reclamation would not authorize federal funding. This would require the EVIDD to continue to experience reduced water delivery efficiency when compared to improvements already achieved in similar contemporary water delivery systems.

Proposed Action

Under the proposed action, Reclamation would authorize the use of Federal funds to pipe approximately 5.1 miles of unlined, open canal along the Farson F2 and F5 Laterals in the EVIDD irrigation system with high-density polyethylene pipe. The pipeline would be placed in

the existing canals/laterals. Pipe diameter will range from 4 to 63 inches, with larger diameter pipe installed at the beginning of the pipeline that will become incrementally smaller toward the endpoint. Canals/laterals will be backfilled. Appurtenances to be installed include turnouts, screens, drains and meters. Construction start is scheduled for fall 2019 with substantial completion by April 2020.

Minimization Measures Incorporated into the Proposed Action

Minimization measures add additional measures listed under each resource in Chapter 3 and Chapter 4 of the EA, have been incorporated into the Proposed Action to lessen potential adverse effects.

Environmental commitments that are integral to the Proposed Action are as follows:

1. **Standard Reclamation Best Management Practices (BMP)** - BMP shall be applied during construction activities to minimize environmental effects. These practices shall be implemented by the contractor and included in construction specifications. Such practices or specifications include sections in the present EA on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, wildlife and threatened and endangered species. Excavated material and construction debris may not be wasted in any stream or river channel in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at a Reclamation approved upland site at a distance and slope that prevents precipitation-related discharge into any channel. Construction materials, bedding material, excavation material, etc. may not be stockpiled in riparian or water channel areas. Silt fencing would be appropriately installed and left in place until after revegetation becomes established, at which time the silt fence can then be carefully removed. Machinery must be fueled and properly cleaned of dirt, weeds, organisms, or any other possibly contaminating substances offsite prior to construction.
2. **Additional Analyses** - If the Proposed Action were to change significantly from that described in this EA because of additional or new information, or if work areas beyond those outlined in this analysis are required outside the defined Project construction area, additional environmental analyses may be necessary.
3. **Wyoming Pollution Discharge and Elimination System (WYPDES) Permit** - A WYPDES Permit is required from the State of Wyoming, prior to initiating any construction activity, to address potential discharge of water into any regulated water body. Appropriate measures, as described in the WYPDES permit conditions, shall be taken to ensure that construction-related sediment discharges will be managed.
4. **Fugitive Dust Control Permit** - The Air Quality Division of the Wyoming Department of Environmental Quality regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than one-quarter of an acre. Wyoming Standards and Regulations ARR12-004, requires steps be taken to minimize fugitive dust from construction activities that could affect local citizen's respiration.

5. **Cultural Resources** - In the case that any cultural resources, either on the surface or subsurface, are discovered during construction, Reclamation's Provo Area Office archeologist shall be notified and construction around the inadvertent discovery would cease until an assessment of the resource and recommendations for further work can be made by a professional archeologist.
6. **Inadvertent Discovery** - Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on Federal land, he/she shall provide immediate telephone notification of the discovery to Reclamation's Provo Area Office archaeologist. Work would stop until the proper authorities are able to assess the situation onsite. This action shall promptly be followed by written confirmation to the responsible Federal agency official, with respect to Federal lands. The State Historic Preservation Office and interested Native American Tribal representatives would be promptly notified. Consultation shall begin immediately. This requirement is prescribed under the NAGPRA (43 CFR Part 10) and ARPA (16 U.S.C. 470).
7. **Adverse Effect to Cultural Resources** - A Memorandum of Agreement (MOA) has been executed to mitigate the adverse effect to 48SW17798. Mitigation for the adverse effects, set forth in the stipulations of the MOA, shall be completed before construction activities associated with the Proposed Action begin.
8. **Paleontological Resources** - Should vertebrate fossils be encountered during ground disturbing actions, construction must be suspended until a qualified paleontologist can be contacted to assess the find.
9. **Wildlife Resources** - In the case that bald and/or golden eagles are observed within the Project area and vicinity, Reclamation's Provo Area Office wildlife biologist shall be notified and construction in the area shall cease until an assessment of eagle presence can be made by a professional wildlife biologist. The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" eagles, including their parts, nests, or eggs. The Act defines "take" as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.
10. **Previously Disturbed Areas** - Construction activities shall be confined to previously disturbed areas where possible for such activities as work, staging, storage, waste areas, and vehicle and equipment parking areas. Vegetation disturbance would be minimized as much as possible.

11. **Public Access** - Construction sites shall be closed to public access. Temporary fencing, along with signs, shall be installed to prevent public access. The Project team shall coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the Project area.
12. **Disturbed Areas** - All disturbed areas resulting from the Proposed Action shall be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project construction condition as practicable. After completion of the construction and restoration activities, disturbed areas shall be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes shall be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas shall be required. Successful revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.
13. **Habitat Replacement Plan** - As required by the Colorado River Basin Salinity Control Act (43 U.S.C. 1571-1599), any fish and wildlife values lost resulting from Project implementation shall be replaced by EVIDD through a habitat replacement plan approved by Reclamation following coordination with Federal and State wildlife officials (ESA Appendix E. Habitat Replacement Plan). A habitat replacement plan shall be developed and implemented as part of the proposed Project. Replacement habitat shall be of an equal or greater value to the wetland and riparian habitat lost by the proposed Project and shall be managed to maintain its value for the life of the Salinity Control Project (typically 50 years).

III. Summary of Impacts

A total of 21 resources were analyzed based on the No Action and the Proposed Action alternatives. A no effect or similar determination was made for each of the following resources as described in the EA: Recreation, Wilderness and Wild and Scenic Rivers, Water Rights, Paleontological, Socioeconomic, Public Health and Safety, Prime and Unique Farmland, Floodplains, Indian Trust Assets, Environmental Justice, Access and Transportation, and, Threatened, Endangered, and Sensitive Species.

The following resources have environmental consequences based on the Proposed Action:

1. **Geology and Soils Resources** – There would be minor, short-term impacts due to soil erosion and sedimentation produced by wind and water from construction activities. These would be mitigated with best management practices (BMPs) and a Storm Water Pollution Prevention Plan to control fugitive dust and prevent offsite turbid water discharges during construction.
2. **Visual Resources** – Temporary and minor affects would be produced due to construction activities. Mitigative efforts would include regrading and reseeding with native plants to establish pre-construction conditions. Since this is subterranean pipeline, no permanent effects would persist once disturbed areas receive soil stabilization treatments.
3. **Cultural Resources** – An adverse effect on cultural resources would result. These impacts would be mitigated through a MOA that has already been signed by interested parties. Stipulations in the MOA would be completed in a timely fashion per environmental commitment number 7.
4. **Hydrologic** – Piping the canal water would cause surface runoff water to percolate into the ground instead of entering canals and other waters.
5. **Water Quality** – Water quality would be improved as it is estimated that, annually, 1,619 tons of salt would no longer enter the Upper Colorado River Basin. Furthermore, piping the canals (i.e. laterals) could minimize/prevent other pollutants from entering the river basin.
6. **System Operations** – The Project would increase operation efficiency by reducing water loss and maintenance expense. It is also anticipated that the effort required to maintain the lateral system would be greatly reduced.
7. **Air Quality and Noise** - Temporary and minor affects would be produced primarily due to construction activities. Air quality changes would be arrested once disturbed soils have been stabilized. Noise effects are not expected to exceed background levels (i.e. localized agricultural practices).
8. **Wetlands, Riparian Vegetation, Noxious Weeds and Existing Vegetation** – Through implementing the BMPs and avoiding wetland areas, none would be impacted that are not exempt under the Clean Water Act [Section 404 Part 323.4(a)(3)]. Riparian areas occur along the laterals' banks because of canal water. Once that water source is removed,

riparian areas would no longer persist without a water source. This effect is compensated through implementation of the Habitat Replacement Plan, which provides a plan to compensate for wildlife habitat loss. The BMP would be implemented to address management of noxious weeds and encourage establishment of native vegetation.

9. **Fish and Wildlife** – Construction activities could cause direct mortality of less mobile animal species, while larger species capable of readily avoiding the active construction area would be temporarily displaced. Additionally, vegetation clearing would occur outside the bird nesting season. Once construction ceases, BMP would reestablish vegetation cover that would prevent long-term impacts to animals. Furthermore, the action is not located in crucial wintering game animal habitat based on the Wyoming Game and Fish Department statewide Habitat Priority Area mapping.

IV. Finding of No Significant Impact

Based upon a review of the EA and supporting documents, implementing the Proposed Action will not significantly affect the quality of the human or natural environment, individually or cumulatively with other actions in the area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27. Consequently, an Environmental Impact Statement is not required for this Proposed Action.

V. Decision

The Proposed Action, to pipe approximately 5.1 miles of unlined, open canal along the Farson F2 and F5 Laterals in the EVIDD irrigation system, will not significantly affect the human or natural environment as summarized above. Furthermore, the Proposed Action meets the purpose and need of the Project, to increase the existing system's efficiency by reducing water loss due to seepage, evaporation, and operational losses, while also reducing maintenance and the salinity contributions to the Colorado River Basin resulting from the existing earthen laterals. The No Action alternative does not meet the purpose or need for the Project. Therefore, it is Reclamation's decision to implement the Proposed Action as described in the attached EA.

Contents

Chapter 1 Purpose and Need for Proposed Action.....	1
1.1 Introduction.....	1
1.2 Background.....	1
1.2.1 Colorado River Salinity Control Program	1
1.2.2 Eden Valley Irrigation and Drainage District and the Project Area ..	2
1.3 Purpose and Need for Proposed Action	2
1.4 Public Scoping and Involvement	5
1.5 Permits, Licenses, and Authorizations.....	5
1.6 Related Projects and Documents	6
1.7 Scope of Analysis	6
Chapter 2 Alternatives	7
2.1 Introduction.....	7
2.2 No Action.....	7
2.3 Proposed Action.....	7
2.3.1 Easements	7
2.3.2 Turnouts, Screens, Drains and Meters	8
2.3.3 Construction Schedule	8
2.3.4 Construction Procedures	8
2.3.4.1 Pipeline Construction.....	8
2.3.4.2 Construction Staging Areas.....	8
2.3.4.3 Land Disturbance	9
2.4 Alternatives Considered and Eliminated from Further Study.....	11
2.4.1 Membrane Lining.....	11
2.5 Comparison of Alternatives	11
2.6 Minimization Measures Incorporated into the Proposed Action	12
Chapter 3 Affected Environment and Environmental Consequences	13
3.1 Introduction.....	13
3.2 Resources Considered and Eliminated from Further Analysis.....	13
3.3 Affected Environment and Environmental Consequences	14
3.3.1 Geology and Soil Resources	14
3.3.1.1 No Action Alternative	15
3.3.1.2 Proposed Action	15
3.3.2 Visual Resources.....	15
3.3.2.1 No Action Alternative	15
3.3.2.2 Proposed Action	16
3.3.3 Cultural Resources	16
3.3.3.1 No Action Alternative	18
3.3.3.2 Proposed Action	18
3.3.4 Paleontological Resources	18
3.3.4.1 No Action Alternative	19
3.3.4.2 Proposed Action	19
3.3.5 Hydrology	19
3.3.5.1 No Action Alternative	19

3.3.5.2	Proposed Action	19
3.3.6	Water Quality	20
3.3.6.1	No Action Alternative	20
3.3.6.2	Proposed Action	20
3.3.7	System Operations	20
3.3.7.1	No Action Alternative	21
3.3.7.2	Proposed Action	21
3.3.8	Health, Safety, Air Quality and Noise	21
3.3.8.1	Health and Safety	21
3.3.8.2	Air Quality.....	21
3.3.8.3	Noise.....	22
3.3.8.4	No Action Alternative	22
3.3.8.5	Proposed Action	22
3.3.9	Prime and Unique Farmlands.....	23
3.3.9.1	No Action Alternative	23
3.3.9.2	Proposed Action	23
3.3.10	Floodplains.....	23
3.3.10.1	No Action Alternative	23
3.3.10.2	Proposed Action	23
3.3.11	Wetlands, Riparian Vegetation, Noxious Weeds and Existing Vegetation.....	24
3.3.11.1	Wetlands and Riparian Vegetation.....	24
3.3.11.2	Noxious Weeds	24
3.3.11.3	Existing Vegetation	24
3.3.11.4	No Action Alternative	24
3.3.11.5	Proposed Action	25
3.3.12	Fish and Wildlife Resources	28
3.3.12.1	Fish.....	28
3.3.12.2	Wildlife.....	28
3.3.12.3	Birds	28
3.3.12.4	Reptiles and Amphibians	28
3.3.12.5	No Action Alternative	28
3.3.12.6	Proposed Action	29
3.3.13	Threatened, Endangered, and Sensitive Species.....	30
3.3.13.1	No Action Alternative	31
3.3.13.2	Proposed Action	32
3.3.14	Socioeconomics	32
3.3.14.1	No Action Alternative	32
3.3.14.2	Proposed Action	32
3.3.15	Access and Transportation.....	32
3.3.15.1	No Action Alternative	33
3.3.15.2	Proposed Action	33
3.4	Indian Trust Assets	33
3.5	Environmental Justice.....	34
3.6	Cumulative Effects.....	34
3.7	Summary of Environmental Effects.....	35

Chapter 4 Environmental Commitments	38
4.1 Environmental Commitments	38
Chapter 5 Consultation and Coordination	41
5.1 Introduction.....	41
5.2 Public Involvement	41
5.3 Native American Consultation.....	41
5.4 Geological Survey.....	42
5.5 Wyoming State Historic Preservation Office	42
Chapter 6 Preparers	43
Chapter 7 Acronyms and Abbreviations	44
Chapter 8 References.....	45

Chapter 1 Purpose and Need for Proposed Action

1.1 Introduction

This Environmental Assessment (EA) was prepared to examine the potential environmental impacts of the Farson F2 and F5 Laterals Salinity Control Project, proposed by the Eden Valley Irrigation and Drainage District (EVIDD) in Sweetwater County, Wyoming. If approved, the U.S. Bureau of Reclamation (Reclamation) would authorize the use of Federal funds to pipe approximately 5.1 miles of unlined, open canal along the Farson F2 and F5 Laterals in the EVIDD irrigation system with high-density polyethylene pipe.

This EA evaluates the potential effects of the Proposed Action to determine whether it would cause significant impacts to the human or natural environment, as defined by the National Environmental Policy Act (NEPA) of 1969. If the EA shows no significant impacts associated with implementation of the Proposed Action, then a Finding of No Significant Impact (FONSI) would be issued by Reclamation. Otherwise, an Environmental Impact Statement (EIS) would be necessary prior to implementation of the Proposed Action.

1.2 Background

1.2.1 Colorado River Salinity Control Program

The Colorado River Basin Salinity Control Act of 1974 was enacted to protect the Colorado River's water quality. Reclamation's Salinity Control Program seeks to provide cost effective regional solutions for reducing the salinity loading of the Colorado River. The Colorado River provides water for approximately 30 million people in the United States and the Republic of Mexico. Water from the Colorado River irrigates four million acres of land in the United States and 500,000 acres of land in Mexico (Reclamation 2017).

Controlling the salinity in the Colorado River remains one of the most important challenges facing Reclamation. Salinity levels in the Colorado River threaten agricultural, municipal, and industrial water users. High salinity levels make it difficult to grow agricultural crops. Salt deposition from high salinity water obstructs and destroys municipal water delivery systems. Recent salinity levels in the lower portion of the Colorado River are typically about 700 mg/L, but in the future may be more variable, ranging from 600 to 1,200 mg/L, depending upon

the amount of water in the river system. Salinity damages currently cost approximately \$382 million per year in the United States' portion of the Colorado River Basin (Reclamation 2017).

1.2.2 Eden Valley Irrigation and Drainage District and the Project Area

The EVIDD service area is located approximately 30 miles north of Rock Springs in Sweetwater County, Wyoming. EVIDD's distribution system consists of approximately 25 miles of pipelines and laterals that provide irrigation water to approximately 5,469 acres of irrigated farmlands. The major irrigated crops in this area include alfalfa, grass hay, barley, oats, and field peas. The EVIDD system serves 84 farms, averaging 200 acres per farm. Seventy-nine of the 84 farm operators have off-farm jobs to supplement the farm income (EVIDD 2015). Currently, the total population in the Eden Valley is 600 people and approximately half of those live on agricultural properties (U.S. Census Bureau 2010).

As a component of Reclamation's Eden Project (completed in 1959), the Farson Canal laterals were built under a contract with Reclamation. The Eden Project also includes the Big Sandy Dam and Reservoir, the Eden Dam and Reservoir, the Little Sandy Canal, the Means Canal, and associated laterals and drains. The Eden Canal from the Farson Lateral to Little Sandy Creek Siphon is approximately 1.38 miles long.

The project area is located approximately six miles north of Farson, Wyoming. (Figure 1-1, Project Location Map and Figure 1-2, Project Vicinity Map). The project area, which encompasses the extent of the Farson F2, F2B, F2D, and F5 Laterals, extends along the corridors of SR-106/Farson 2nd East Road, Farson 4th North Road and Farson 5th North Road. The F2 lateral is approximately 4.9 miles long and the F5 lateral is approximately 1 mile long.

1.3 Purpose and Need for Proposed Action

The Proposed Action would replace the existing unlined earthen Farson Laterals (F2, F2B, F2D, and F5) with pipelines. The purpose of the Proposed Action is to reduce maintenance on the canal and reduce the salinity contributions resulting from the existing earthen laterals, consistent with the purpose of the Colorado River Basin Salinity Control Program. Currently, approximately 25 to 30% of water that travels through the unlined laterals are lost to seepage. The project improvements are anticipated to reduce the salinity contributions to the Colorado River Basin by 1,619 tons annually (Jacobson 2015). The need for the Proposed Action is to increase the efficiency of the existing system and reduce water loss due to seepage, evaporation, evapotranspiration, and operational losses.

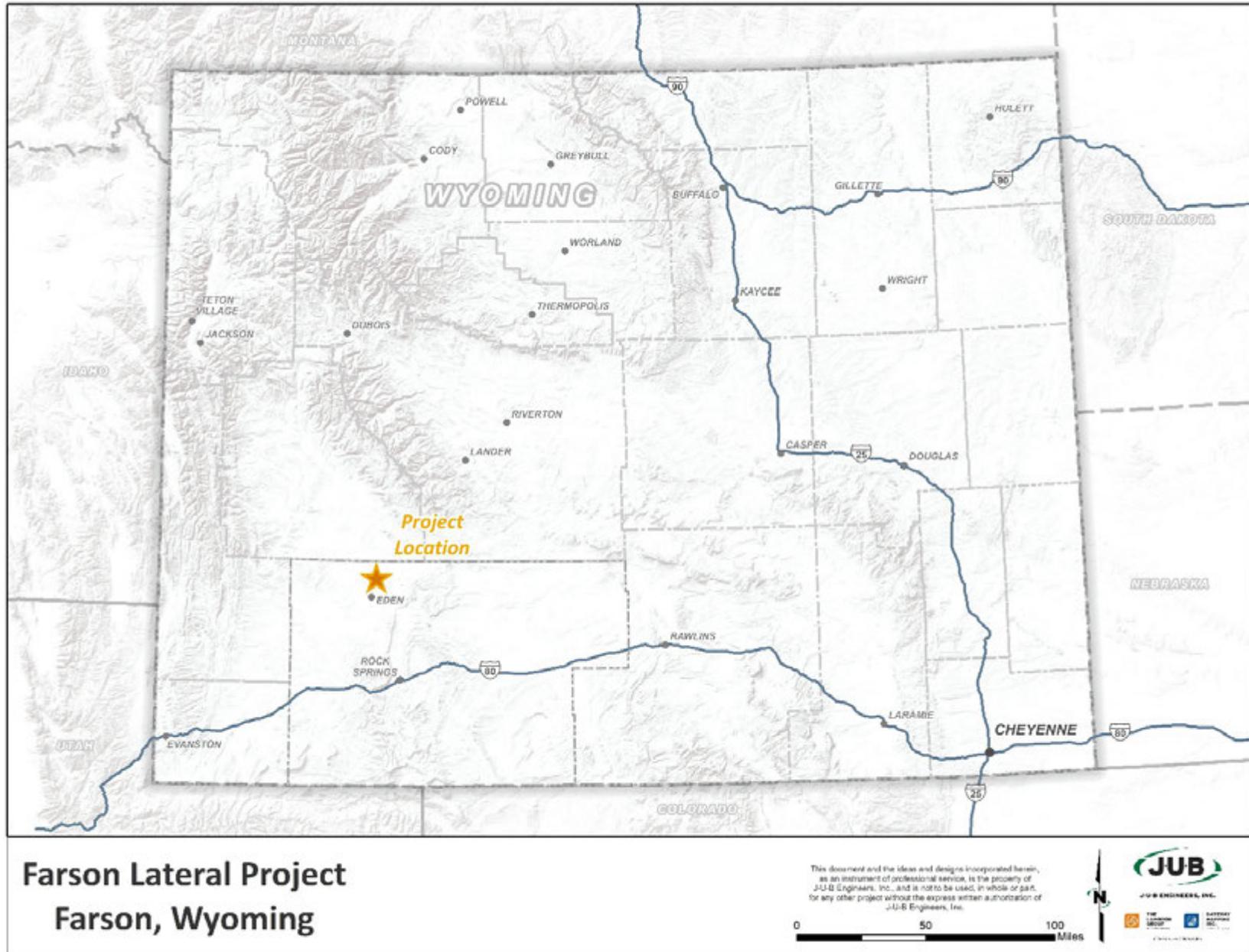


Figure 1-1, Project Location Map

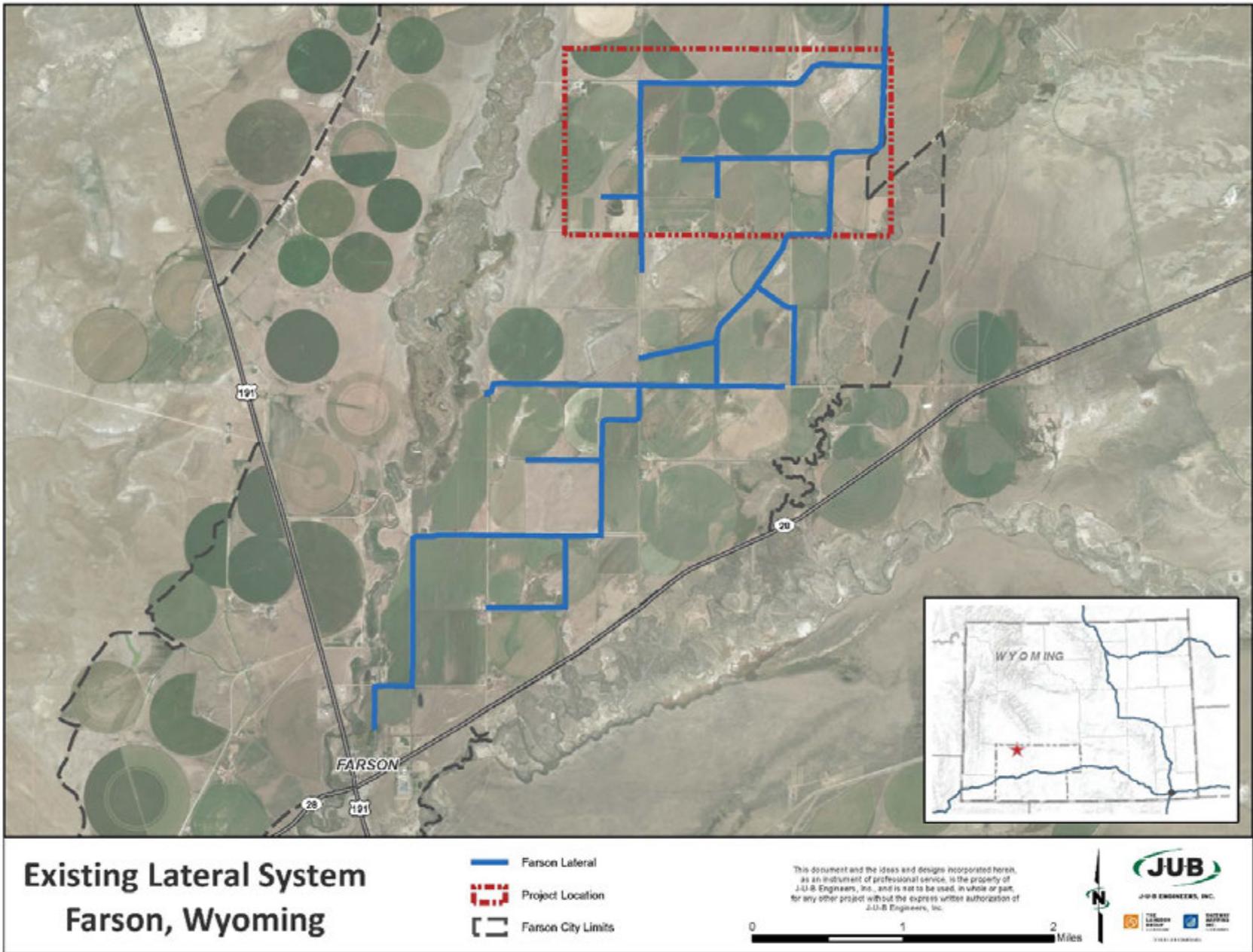


Figure 1-2, Project Vicinity Map

1.4 Public Scoping and Involvement

The public involvement process for this EA presented the members of the public including other agencies, interest groups and key stakeholders with opportunities to obtain information about the Proposed Action and opportunities to participate in the project through written comments. Reclamation’s objectives during the public involvement process are to create and maintain a well-informed public and receive input on the Proposed Action.

Members of the project team, including EVIDD staff, met with property owners located along the proposed project alignment. The project improvements were also discussed with the EVIDD board members during irrigation meetings beginning in 2015. The project team would continue to coordinate with property owners and the EVIDD board throughout the implementation of the Proposed Action. Coordination with interested agencies was performed throughout the EA process. Chapter 5 describes in detail the public involvement process and coordination completed during the development of this EA.

1.5 Permits, Licenses, and Authorizations

Implementation of the Proposed Action may require a number of authorizations or permits from State or Federal agencies. The EVIDD will be responsible for obtaining all permits, licenses, and authorizations required for the Project. Potential authorizations or permits may include those listed in Table 1-1.

**Table 1-1
Permits and Authorizations**

Agency/Department	Purpose
Wyoming Water Quality Division (WQD) of the Wyoming Department of Environmental Quality (DEQ)	Wyoming Pollution Discharge Elimination System (WYPDES) Permit.
Wyoming State Historic Preservation Office	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470 USC 470.
Sweetwater County	<ul style="list-style-type: none">• Construction/Use Permits• Conditional Use Permits for construction staging areas, fuel storage, work camps, and etc.• County Road Crossing Licenses• County Road Access Permits• Coordination with Sweetwater County Weed and Pest District

1.6 Related Projects and Documents

Past projects in the area include previously implemented salinity control projects. In January 2010, Reclamation prepared an EA and FONSI for the piping of the Eden Canal E13 lateral. The piping of E13 is anticipated to reduce the annual salinity loading of the Colorado River Basin by a total of 832 tons. A subsequent EA and FONSI were prepared in December 2010 for the piping of the Eden Canal E7, E8, and Westside laterals, with an anticipated annual salinity load reduction of 5,762 tons. In January 2012, Reclamation approved the EA and issued a FONSI for the Eden Canal E5 and E6 Laterals project, which is anticipated to reduce the annual salinity loading by 1,135 tons. Collectively these stand-alone projects, including the Proposed Action analyzed in this EA, would reduce the annual salinity contributions to the Colorado River Basin by 9,348 tons (EVIDD 2015).

In addition to the previously implemented projects, EVIDD is concurrently working with Reclamation on the Farson Phase 1 Project. This project would pipe a portion of the Farson Lateral (from the F1 Lateral to F2 Lateral). The Farson Phase 1 project will also reduce the salinity loading within the Colorado River Basin by approximately 433 tons annually (Jacobsen, 2015). A Categorical Exclusion is currently being prepared by Reclamation for this project. Pending environmental approval, Farson Phase 1 is anticipated to be constructed prior to the implementation of the Proposed Action evaluated in this EA.

Collectively, these projects will have a beneficial long-term impact to the efficiency of the EVIDD system and improved water delivery and quality in the project area as well as within the Colorado River Basin. Section 3.6 contains a summary of the cumulative effects analysis and conclusion.

1.7 Scope of Analysis

The purpose of this EA is to determine whether Reclamation should authorize, provide funding, and enter into an agreement with the EVIDD for the piping of the Farson, F2, F2B, F2D, and F5 Laterals, consistent with Reclamation's Salinity Control Program. That determination includes consideration of whether there would be significant impacts to the human and natural environment. In order to implement the Proposed Action, this EA must be completed and a FONSI issued. Analysis in the EA includes temporary impacts from construction activities and permanent impacts as a result of the Proposed Action.

Chapter 2 Alternatives

2.1 Introduction

This chapter describes the features of the No Action and the Proposed Action Alternative. It includes a description of each alternative considered and presents the alternatives in comparative form, defining the difference between each alternative.

2.2 No Action

Under the No Action Alternative, Reclamation would not authorize the use of Federal funds to pipe the Farson F2 and F5 Laterals. The open, unlined laterals would continue to deliver irrigation water with no improvements to reduce water losses from seepage, evaporation, evapotranspiration, and other operational losses. Seepage from the laterals would continue to percolate into the sandy soils and lead to an increase in the salt loading of the Upper Colorado River Basin. Currently, seepage from these open laterals contribute an estimated 1,619 tons of salt annually to the Upper Colorado River Basin (Jacobson 2015).

2.3 Proposed Action

Under the Proposed Action Alternative, Reclamation would authorize the use of Federal funds to pipe the EVIDD Farson F2 and F5 Laterals. The proposed piping would reduce the amount of water lost along these laterals by up to 30 percent and would reduce the salt loading of the Upper Colorado River Basin by approximately 1,619 tons annually (Jacobson 2015). Piping these laterals would reduce the amount of required ongoing system maintenance such as debris removal, vegetation clearing, and replacing outdated valves and gates. The Proposed Action would include approximately 5.1 miles of new pipeline for the F2 and F5 Laterals. Pipe sizes would range from four to 63 inch diameters, with larger pipes being used at the start of the pipelines, and reducing in size toward the terminus of the lines.

2.3.1 Easements

Easements would be required where the proposed pipeline alignments deviate from the existing lateral alignments. Where deviations occur, an approximate 30-foot wide easement would be acquired by EVIDD to account for the pipelines and associated operation and maintenance. The construction of the pipeline would result in approximately 7,300 linear feet of deviation from the existing canal alignment (Figure 2-1, Project Alignment). A 100-foot temporary easement

would be required for construction in areas where the proposed alignments deviate from the existing lateral alignments. A 50-foot construction easement would be required for construction activities that take place along the existing canal alignments. No easements from publicly owned local, State, or Federal land are anticipated for the proposed project. Construction of the Proposed Action (including staging areas and the habitat replacement site) is anticipated to temporarily disturb approximately 94 acres of land. All easements on privately owned land would be acquired in the name of the EVIDD. There would be no changes requiring water right permits or permissions.

2.3.2 Turnouts, Screens, Drains and Meters

The Proposed Action would improve management and delivery of the irrigation flows along the F2 and F5 Laterals. Flow meters would be placed at the inlet to the pipeline system and at each of the turnouts to facilitate proper distribution of the allocated water and to improve on-farm management, making flow delivery a known quantity. Measurement at the pipeline inlets would also facilitate future management improvements, including Supervisory Control and Data Acquisition (SCADA) systems for inlet gate operations that would further improve water delivery and management efficiencies. All abandoned canal lengths, (i.e. where the proposed alignment deviates from the existing alignment) would be filled with native material, then graded to match adjacent land.

2.3.3 Construction Schedule

The Proposed Action construction would begin fall 2019, pending environmental approval. Construction activities would take place outside of the typical irrigation season, with construction occurring between October 1st through April 1st. Substantial completion of the project is anticipated in April 2020.

2.3.4 Construction Procedures

2.3.4.1 Pipeline Construction

Construction of the pipelines would occur in the following sequence: mobilization of construction equipment, pipe delivery to staging areas, excavation of the trenches, fusing and placement of pipelines, backfilling and compacting the trench, and restoration and reseeding of the disturbed areas. Excavation activities would be performed with the use of appropriately sized construction equipment to minimize disturbance to surrounding areas. All excavated material would be stockpiled to the side of the trenches within the construction easement, and used as backfill around the new pipeline.

2.3.4.2 Construction Staging Areas

Staging areas would be used to stockpile pipe and other construction materials, to house equipment, and park construction vehicles. Staging areas have been identified and analyzed as part of this EA to determine potential project impacts throughout implementation of the Proposed Action (Figure 2 -1, Project Alignment). Impacts to construction staging areas are discussed in Chapter 3.

2.3.4.3 Land Disturbance

The proposed pipeline alignments total approximately 5.1 miles in length and would require a maximum construction easement of 100 feet (50-feet in both directions from the centerline of the pipeline alignments). Land disturbance would be confined to the identified staging areas, the existing canal prism, the habitat replacement site, and the 100-foot wide construction easement along the pipeline alignment. Transportation to the project would follow existing access roads wherever possible to minimize disturbance. If necessary, any new access roads would be confined to the proposed 100-width construction easement.

In 2011, EVIDD established a Habitat Replacement Site (HRS) along the Big Sandy River in an area that had been grazed by cattle for many years. Since the establishment of the HRS, EVIDD has constructed exclusionary fencing, performed noxious weed removal and management, and planted areas of the site. The Habitat Replacement Plan (HRP) for the Proposed Action would take place on the existing HRS. The HRP centers on increasing native vegetative diversity, overall health of the vegetation and the stratification at the HRS. As part of the overall Proposed Action, EVIDD would install 150 cottonwood trees within five areas with exclusionary fencing along the landward extents of the riparian flats associated with the Big Sandy River. Land disturbance within HRS would be minimal and include excavation for planting and placing of the exclusionary fencing.

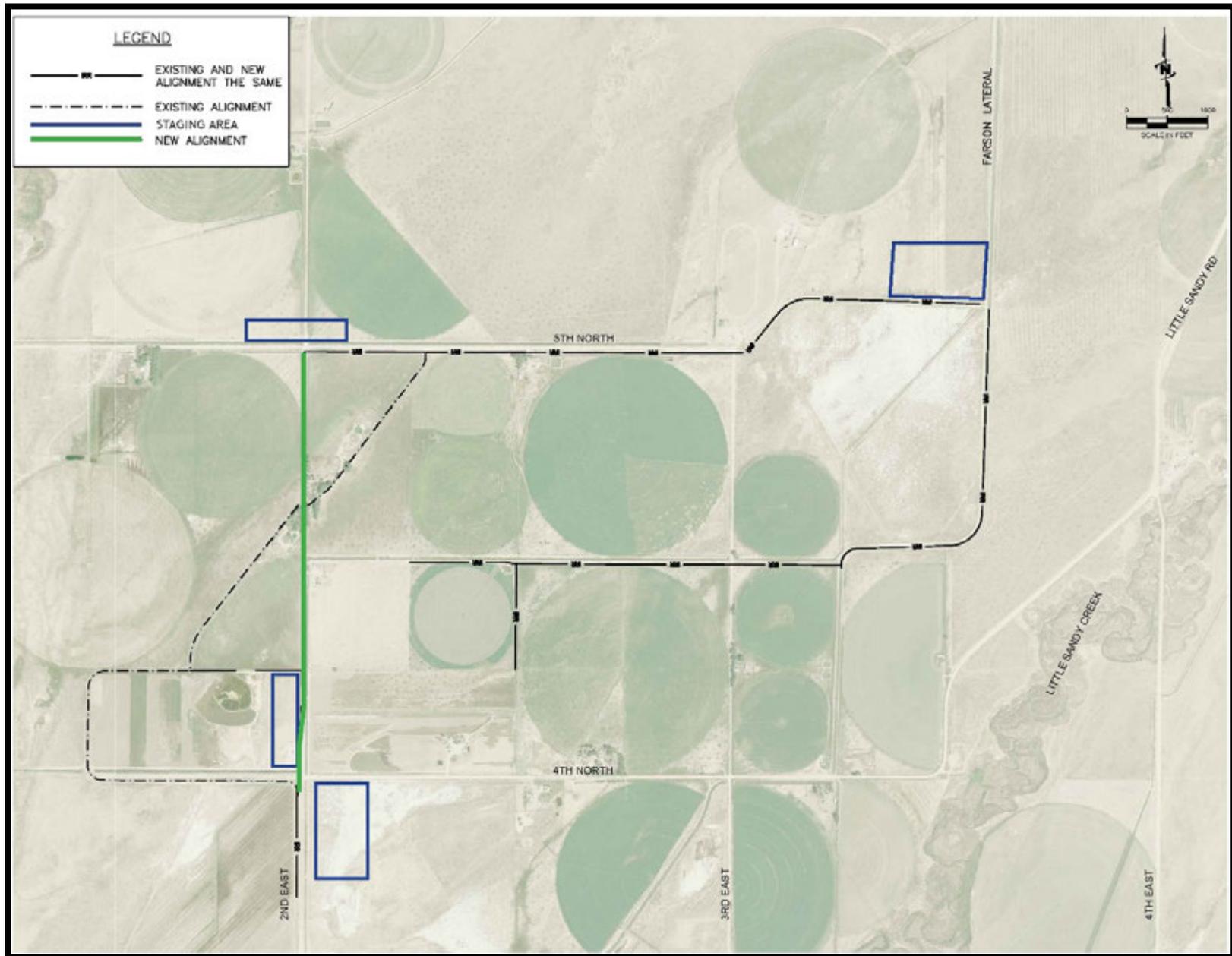


Figure 2-1, Project Alignment

2.4 Alternatives Considered and Eliminated from Further Study

The following alternative was evaluated but eliminated because it did not meet the purpose or need for the Proposed Action.

2.4.1 Membrane Lining

Under the Membrane Lining Alternative, a liner would be placed in the F2 and F5 Laterals to reduce the amount of seepage occurring along the open canal laterals. As part of this alternative, the laterals would remain open and would still require maintenance to remove debris and trash that enters the laterals. The membrane lining would be susceptible to damage from livestock, wildlife, and maintenance equipment that enters the open laterals.

This alternative does not meet the purpose and need for the Proposed Action because it would keep the water in an open environment, thus allowing evaporation of irrigation waters. Damage to the liner from livestock, wildlife, and maintenance equipment entering the open lateral would increase maintenance burdens and likely lead to seepage, which would reduce the efficiency of the laterals and again contribute to the salt loading of the Upper Colorado River Basin. This alternative was determined not to meet the project purpose and need for improving water quality, reducing maintenance, and preventing debris from entering the lateral. Therefore, this alternative was eliminated from further evaluation in this EA.

2.5 Comparison of Alternatives

The suitability of the No Action Alternative and Proposed Action were compared based on five objectives identified for the project. The objectives are:

- Reduce salt traveling to the Upper Colorado River Basin;
- Prevent seepage and evaporation of irrigation water;
- Improve water quality;
- Reduce maintenance; and
- Prevent trash and debris from entering the waterway.

The No Action Alternative did not meet all the Project's objectives, while the Proposed Action met all five objectives (Table 2-1).

**Table 2-1
Comparison of Alternatives**

Project Objective	Does the No Action Alternative Meet the Objective?	Does the Action Alternative Meet the Objective?
Reduce salt traveling to Upper Colorado River Basin	No	Yes
Prevent Seepage and Evaporation	No	Yes
Improve Water Quality	No	Yes
Reduce Maintenance	No	Yes
Prevent Trash and Debris	No	Yes

2.6 Minimization Measures Incorporated into the Proposed Action

The minimization measures listed below, along with other measures listed under the resources in Chapter 3 and Chapter 4, have been incorporated into the Proposed Action. These minimization measures include, but are not limited to, the following:

- Staging areas would be sited in locations of previous soil and vegetation disturbance.
- Ground disturbance would be minimized to the extent practicable.
- Construction vehicles and equipment would be inspected and cleaned prior to entry into the project area to ensure that they are free of weed seed.
- Newly disturbed sites would be reseeded with an approved native seed mix post-construction.
- Material stockpiling would only occur at staging areas receiving prior environmental clearance.
- Coordinating with Sweetwater County on County roadway crossings and construction permitting issues.

Chapter 3 Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the environment that could be affected by the Proposed Action. These impacts are discussed under the following resources: geology and soils; visual; cultural; paleontological; wilderness and wild and scenic rivers; hydrology; water quality; system operations; health, safety, air quality, and noise; prime and unique farmlands; floodplains; wetlands, riparian, noxious weeds and existing vegetation; fish and wildlife resources; threatened, endangered, and sensitive species; recreation; socioeconomics; public safety, access, and transportation; water rights; Indian Trust Assets (ITAs); environmental justice; and cumulative effects. The present condition and characteristics of each resource are discussed first, followed by a discussion of the predicted impacts caused by the Proposed Action. The environmental effects of the No Action and the Proposed Action are summarized in Section 3.7.

Implementing minimization measures would ensure impacts are minimal and short-term. Chapter 3 presents the impact analysis for resources after minimization measures and Best Management Practices (BMP) have been successfully implemented.

3.2 Resources Considered and Eliminated from Further Analysis

Resources listed in Table 3-1 were considered but eliminated from further analysis because they did not occur in the project area or because the potential effect to the resource would be negligible.

**Table 3-1
Resources Eliminated from Analysis**

Resource	Rationale for Elimination from Further Analysis
Recreation	There are no recreation resources within or directly adjacent to the project area.
Wilderness and Wild and Scenic Rivers	There are no designated Wilderness Areas or Wild and Scenic Rivers within or adjacent to the project area.
Water Rights	Existing water rights would not change under the Proposed Action.

3.3 Affected Environment and Environmental Consequences

This chapter describes the affected environment (baseline conditions) and environmental consequences (impacts as a result of the Proposed Action) on the quality of the human environment that could be impacted by construction and operation of the Proposed Action, as described in Chapter 2. The human environment is defined in this study as all of the environmental resources, including social and economic conditions, occurring in affected environment.

3.3.1 Geology and Soil Resources

The plateaus and mountains in the Colorado River Basin are the product of a series of uplifted land masses deeply eroded by wind and water. However, long before the earth movements, which created the uplifted land masses, the region was the scene of alternate encroachment and retreat of great inland seas. The sedimentary rock formations underlying large portions of the basin are the result of material that accumulated at the bottom of these seas.

The rocks of the Green River Basin are a succession of fluvial (Wasatch and Bridger Formations) and lacustrine (Green River Formation) sediments. Erosion of the surrounding uplands resulted in thick deposits in the extensive alluvial plain and lake, known as Lake Gosiute, within this intermountain basin. Lake Gosiute likely reached its maximum size and the thick shale deposits of the Laney Member were deposited during the middle Eocene epoch, between approximately 55.8 and 33.9 million years ago (USGS 1964). As sediments filled Lake Gosiute, fluvial deposits of the Bridger Formation covered the Green River Formation. The environment during deposition of the Bridger resulted in gypsum and salt being deposited in the contact zone with the Wilkins Peak Member of the Green River Formation.

The project area consists of agricultural fields, local roadway and canal laterals. At an approximate elevation of 6,600 feet above sea level, the project area is relatively flat with only minor slopes of 1 to 10 percent. Moderate soil erosion is common within the project area, especially in areas surrounding existing ditches and in areas that receive periods of heavy wind. Information obtained from the Natural Resources Conservation Service (NRCS) indicates that most of the project area has a moderate soil erosion rating (NRCS Soil Survey 2016). According to the NRCS soil survey, the soils in the project area are primarily comprised of sandy loams and outcrop complexes. The composition of the soil in the project area is detailed in Table 3-2, and a map showing the composition of the soil can be found in Appendix A. Soil Survey.

**Table 3-2
Composition of Soils within the Project Area**

Soil Type	Percent of Project Area
Farson sandy loam, 0 to 1 percent slopes	36.6%
Farson sandy loam, 1 to 3 percent slopes	8.8%
Farson sandy loam, wet, 0 to 1 percent slopes	19.7%
Farson-Means sandy loams, 3 to 10 percent slopes	0.2%
Farson variant gravelly sandy loam, 0 to 1 percent slopes	0.6%
Means-Farson sandy loams, 0 to 1 percent slopes	14.9%
Means-Farson sandy loams, 1 to 3 percent slopes	1.6%
Means variant sandy loam, 0 to 1 percent slopes	17.5%

3.3.1.1 No Action Alternative

Under the No Action Alternative, there may be minor long-term adverse effects to soil erosion and sedimentation. Seepage of irrigation waters into the project area may increase soil erosion in the project area. Soil erosion from natural occurrences of water and wind would continue in the area at the current rate, with those areas exposed to high winds and located on slopes experiencing the most erosion.

3.3.1.2 Proposed Action

Under the Proposed Action, soil would be excavated, compacted and regraded during construction. In the short-term period during and immediately following construction, erosion and sedimentation may increase. BMP would be employed to minimize the potential for impacts from erosion and sedimentation. The proposed pipeline alignment would be reseeded, and over the long-term, the vegetation and soil complex would return to a pre-project condition. The Proposed Action would have no long-term, negative impact on soil erosion in the area.

3.3.2 Visual Resources

The visual resources within the project area are related to the area’s agricultural activities and adjacent topographic features. The elevation of the project area on average is 6,600 feet above sea level or higher. Most of the project area has been previously disturbed and converted to agricultural or residential uses.

3.3.2.1 No Action Alternative

There would be no new structures or changes to the existing viewshed under the No Action Alternative. The visual resources in the project area would remain unaltered. Therefore, there would be no impact to visual resources from the No Action Alternative.

3.3.2 Proposed Action

Under the Proposed Action, the proposed pipeline would be buried and the site would be graded and reseeded with native plants to establish pre-construction conditions as much as possible. Temporary disruption to any visual resource is expected but would end upon re-establish of pre-construction conditions. Therefore, no long-term impacts to the visual resources within the project area would occur.

3.3.3 Cultural Resources

Cultural resources are defined as physical or other expressions of human activity or occupation that are over 50 years in age. Such resources include culturally significant landscapes, prehistoric and historic archaeological sites as well as isolated artifacts or features, traditional cultural properties, Native American and other sacred places, and artifacts and documents of cultural and historic significance.

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), mandates that Reclamation take into account the potential effects of a proposed Federal undertaking on historic properties. Historic properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for, inclusion in the National Register of Historic Places (NRHP). Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

The affected environment for cultural resources is identified as the area of potential effects (APE), in compliance with the regulations to Section 106 of the NHPA (36 CFR 800.16). The APE is defined as the geographic area within which federal actions may directly or indirectly cause alterations in the character or use of historic properties.

A Class I records search and a Class III cultural resources inventory were completed for the APE by Certus Environmental Solutions, LLC. (Certus) from April - June 2017. A total of 94.3 acres were inventoried during the Class III cultural resource inventory to identify any cultural resources within the APE. Certus identified four linear historic sites (canal laterals) and one historic structure (a bridge). No other historic properties or archaeological sites were discovered/identified.

A Class I records search and a Class III cultural resources inventory were completed for the Proposed Action's Habitat Replacement Site (HRS). No historic properties or archaeological sites were discovered within the HRS's APE. Consultation with SHPO and HRS is pending.

In accordance with 36 CFR 800.4, the five sites were evaluated for significance in terms of NRHP eligibility. The significance criteria applied to evaluate cultural resources as defined in 36 CFR 60.4 as follows.

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded, or may be likely to yield, information important in prehistory or history.

Site 48SW17798, the Means Canal (including the Farson Lateral), was constructed as part of Reclamation's Eden Project and was previously determined eligible for the NRHP under Criterion A. The Means Canal feeds the Farson Lateral. The cultural resource survey determined that the Farson Lateral is a contributing component of Site 48SW17798. The cultural resource survey determined that the other linear features in the APE, the F2, F3 and F5 Laterals, are non-contributing components of Site 48SW17798 and are not eligible for inclusion in the NRHP. However, the Wyoming State Historic Preservation Office (SHPO) finds these segments eligible as well.

Site 48SW19674, the Farson 3rd East Bridge, is a wooden stringer bridge located over the Farson F2 Lateral. According to the cultural resource survey report and documentation, the bridge meets the historic age criterion and retains integrity of location, design, materials, workmanship, setting, feeling and association. Therefore, the Farson 3rd East Bridge should be considered eligible for the NRHP under Criterion C. However, SHPO does not find the bridge eligible.

The Proposed Action would pipe approximately 1 mile of the Farson Lateral and would completely remove the Farson 3rd East Bridge. The Proposed Action would therefore have an adverse effect on features that contribute to the NRHP eligibility of Site 48SW17798.

In accordance with 36 CFR 800.5, the criteria of adverse effect were applied to Sites 48SW17798. An adverse effect is defined as an effect that could diminish the integrity of a historic property's location, design, setting materials, workmanship, feeling or association. The Proposed Action would diminish the integrity of the linear site and would therefore have an adverse effect to the historic site.

In compliance with 36 CFR 800.4(d)(2) and 36 CFR 800.11(e), a copy of the Class III cultural resource inventory report and determination of historic properties affected were submitted to the SHPO, the Advisory Council on Historic Preservation (ACHP), and any tribes which may attach religious or cultural significance to historic properties possibly affected by the Proposed Action for consultation (Appendix B. Cultural Resources).

Pursuant to 36 CFR 800.6(c), a Memorandum of Agreement (MOA) has been developed to resolve the adverse effect to Site 48SW17798. Signatories to the MOA would include all parties that assume a responsibility under the MOA, including, but not limited to, Reclamation, Wyoming SHPO, EVIDD, and if they choose to participate, the ACHP and Tribes. Site 48SW19674, the Farson 3rd East Bridge, was not found eligible by SHPO.

3.3.3.1 No Action Alternative

Under the No Action Alternative, there would be no foreseeable impacts to cultural resources. There would be no need for ground disturbance for pipe installation or staging areas. The existing bridge structure would remain in place with no modifications. The existing conditions of the historic sites would remain intact and would not be affected.

3.3.3.2 Proposed Action

Under the Proposed Action, the 1 mile of the Farson Lateral would be replaced with a buried pipeline and the Farson 3rd East Bridge structure would be removed and replaced. The modifications to Site 48SW17798 would result in an adverse effect. Mitigation measures for the adverse effect to the site would be outlined in a MOA in accordance with 36 CFR 800.6 (c).

3.3.4 Paleontological Resources

Paleontological resources are defined as any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth. Any materials associated with an archaeological resource as defined in Section 3(1) of the Archaeological Resources Protection Act (ARPA) (16 U.S.C. 470bb(1)) and any cultural item as defined in Section 2 of the Native American Graves and Repatriation Act (NAGPRA) (25 U.S.C. 3001) are not considered paleontological resources. Section 6302 of the Paleontological Resources Preservation Act (PRPA) of 2009 (Sections 6301-6312 of the Omnibus Land Management Act of 2009 [Public Law 111-11 123 Stat. 991-1456]) requires the Secretary of the Interior to manage and protect paleontological resources on Federal land using scientific principles and expertise.

The potential impact area for paleontological resources is consistent with the APE for cultural resources, as described in Section 3.3.3. Information obtained from the U.S. Geological Survey (USGS), indicates that the project area is primarily composed of tertiary sedimentary rock of the Laney Member formation with small pockets of alluvium and colluvium deposits (Appendix C. Paleontological

Resources). Project excavation would not extend into the bedrock fossil bearing formations.

3.3.4.1 No Action Alternative

Under the No Action Alternative, there would be no foreseeable impacts to paleontological resources. There would be no need for ground disturbance for any pipe installation or staging areas. The existing conditions would remain intact and would not be affected.

3.3.4.2 Proposed Action

Under the Proposed Action, there would be ground-disturbing activities, which have the potential to disturb subsurface fossil material. There are, however, no known paleontological localities within the potential impact area. Furthermore, the placement of the pipeline would not require excavation into bedrock or other rock layers that are likely to contain fossil materials. Therefore, the Proposed Action is not anticipated to have an impact on paleontological resources.

3.3.5 Hydrology

There are no natural lakes or rivers within the project area. Water is diverted from the Big Sandy and Eden Reservoirs into the Means Canal and then to the Farson Lateral (Klajic 2000). The water is then diverted from the main Farson Lateral to the F2 and F5 Laterals. The laterals may receive supplemental hydrology in the form of run-off from adjacent hillsides and other surrounding higher elevations.

An estimated annual average of 1,619 tons of salt reaches the Upper Colorado River Basin due to deep percolation of water conveyed by the Farson Laterals (Jacobson 2015). The salt is transported through seepage from the laterals. The water from the laterals leaches salt from fluvial and lacustrine sediments as it travels through subsurface materials to adjacent waterways.

3.3.5.1 No Action Alternative

The hydrology in the project area would remain unaltered in its current state under the No Action Alternative. A greater demand for water from the natural hydrological resources in the area may be required as seepage and operational losses continue in the EVIDD system. These conditions may result in a long-term negative impact to the hydrology in the project area.

3.3.5.2 Proposed Action

The Proposed Action would prevent seepage and increase the efficiency of water delivery through the EVIDD Laterals. This would result in an estimated 30 percent increase in water traveling to agricultural users along the laterals (EVIDD 2015). The increased efficiency of the piped lateral would not result in any new depletions to the water traveling to the Upper Colorado River Basin. The water would continue to be used for agricultural purposes and would not alter the water rights, water usage, or amount of water in the current system. Run-off that was previously collected by the open laterals would sheet flow over the piped laterals

and percolate into the surface or be collected by other waterways in the general area. The Proposed Action would not impact the hydrology of natural water resources within the vicinity of the project area.

3.3.6 Water Quality

The EVIDD canal system, which includes the Farson Laterals, are classified as Class 4A waterways by the Wyoming Department of Environmental Quality (WDEQ). Class 4A waterways are waters where aquatic life uses are not attainable, pursuant to the provisions of the Clean Water Act (CWA). Uses designated on Class 4 waters include recreation, wildlife, industry, agriculture, and scenic value. Class 4A designations are based upon the knowledge that an irrigation canal is an artificial, man-made conveyance and has been determined not to support aquatic life uses (WDEQ 2013).

The Farson Laterals provide irrigation to agricultural users. Irrigation seepage into shallow aquifers is the source of many saline seeps. As the water migrates through the soil, it dissolves salts thus increasing the salinity of adjacent waterways. The open, unlined F2 and F5 Laterals evaluated in this EA are estimated to contribute 1,619 tons of salt per year (Jacobson 2015). This salt loading degrades the water quality of the Upper Colorado River Basin.

3.3.6.1 No Action Alternative

Under the No Action Alternative, there would be long-term minor to moderate adverse impacts to the water quality as salt loads from the deep percolation of seepage from the laterals would continue to degrade water quality. Furthermore, water resources would be strained as up to 30 percent of the water traveling along the laterals would be lost to seepage potentially causing the need to release additional water from the Eden and Big Sandy Reservoirs to meet water users' needs. If that need arises, this may further degrade water quality as more water used would increase salt loading from the canals.

3.3.6.2 Proposed Action

The Proposed Action would reduce seepage from the F2 and F5 Laterals. The reduced seepage would result in an estimated 1,619 fewer tons of salt from annually reaching the Upper Colorado River Basin (Jacobson 2015). Piping the open, unlined laterals would also prevent debris and pollution from runoff entering the irrigation system. This may result in improvements to the long-term water quality of the Upper Colorado River Basin. Therefore, the Proposed Action is anticipated to have a long-term beneficial impact to water quality.

3.3.7 System Operations

The Farson Laterals are components of the larger EVIDD irrigation system. The water in the EVIDD system is diverted from the Big Sandy and Eden Reservoirs to the Means Canal where it then flows into the Farson Lateral. The Eden Reservoir has a storage capacity of 12,190-acre feet (WWDO 2016). The Farson F2 and F5 Laterals serve approximately 17,000 acres of agricultural land, and deliver an average daily diversion of 96 cfs (EVIDD 2015). The existing F2 and

F5 Laterals are unlined earthen canals which do not currently have flow meters at the turnout locations.

3.3.7.1 No Action Alternative

Under the No Action Alternative, the EVIDD system would continue to operate under current conditions. Existing water losses in the system would continue and potentially increase as the canal laterals continue to deteriorate over time. To compensate for water loss, additional water may need to be diverted and/or the irrigation season would need to be shortened which would likely result in economic losses to agricultural users in the project area. Maintenance requirements associated with the open laterals would continue to increase due to canal deterioration and the accumulation of debris associated with open canal laterals.

3.3.7.2 Proposed Action

The Proposed Action would replace the earthen canal laterals with buried pipelines. The buried pipelines have minimal operations and maintenance requirements. The Proposed Action would place flow meters at the inlets to pipelines and at each of the turnouts. The flow meters would facilitate proper distribution of the allocated water and improve on-farm water management.

The Proposed Action would increase the efficiency of the system operations by reducing the amount of water lost through the open laterals. System operations would also improve under the Proposed Action as maintenance expense and efforts would be greatly reduced. The Proposed Action would therefore result in a long-term beneficial impact on the operations of the EVIDD irrigation system.

3.3.8 Health, Safety, Air Quality and Noise

3.3.8.1 Health and Safety

The project is located in an agricultural area of Sweetwater County, Wyoming. Safety concerns include those related to typical vehicle and truck traffic occurring along highways. Major transportation facilities in the area include State Highway 108 located approximately 0.40 miles from the project area and State Highway 28 located approximately two miles from the project area. Roadways located in the project area are minor local and county roadways that carry light traffic. There are no other known safety or public health concerns in the project area.

Public safety resources in the general vicinity of the project area include the Rock Springs Sheriff Department and the Rock Springs Fire Department. Both are located approximately 40 miles south of the project area.

3.3.8.2 Air Quality

Air quality in the project area is regulated by the U.S. Environmental Protection Agency (EPA) and the Wyoming Division of Air Quality (WDAQ). The National Ambient Air Quality Standards (NAAQS) established by the EPA under the Clean Air Act (CAA) specify limits for criteria air pollutants of carbon monoxide,

particulate matter (PM 10 & PM 2.5), ozone, sulfur dioxide, lead, and nitrogen. If the level of a criterion pollutant in an area is higher than the NAAQS, then the area is designated as a “nonattainment area.” Areas that meet the NAAQS for criteria pollutants are designated as “attainment areas.”

The project area is located in Sweetwater County, of which portions are classified as an ozone non-attainment area (EPA 2016). The Proposed Action area falls within this ozone nonattainment area. This area was classified as a “marginal” nonattainment area by the EPA in July 2012. While there is no formal State Implementation Plan (SIP) to address ozone, the State of Wyoming has formed an Ozone Task Force to consider and offer advice on potential solutions to reduce ozone in the airshed.

3.3.8.3 Noise

The ambient noise within the project area includes a combination of natural sounds (wind, bird and insect calls) and mechanical sounds (cars, trucks, tractors, etc.). In general, noise levels are consistent with rural communities, likely averaging from 30 to 60 dBA based on the agricultural activity level of the project area.

3.3.8.4 No Action Alternative

Existing public health, safety, air quality and noise conditions in the project area would be maintained under the No Action Alternative. Therefore, the No Action Alternative would have no effect on these resources.

3.3.8.5 Proposed Action

The Proposed Action would have no impacts on public health and safety in the project area. Emergency dispatch services, including the local fire and police, would not be impacted by the Proposed Action. Although no temporary road closures are planned, any temporary road or access closures would be coordinated with local law enforcement and emergency services.

The Proposed Action is anticipated to have short-term noise and air quality impacts during active construction. Noise levels would be elevated during construction, but no new noise would be generated from the Proposed Action after construction. Noise levels during construction would not be expected to reach levels greater than the background levels created by surrounding agricultural practices.

Air quality impacts from equipment during construction activities, such as excavation and recontouring of soils along the project alignment, would be short-term. Noise and air quality impacts would be mitigated through the implementation of BMP throughout the construction phase. BMP would include a fugitive dust mitigation plan and proper maintenance of construction equipment. The Proposed Action would not increase the ozone levels in the airshed and would therefore not be in violation of any existing or proposed rules relating to

the reduction of ozone. There would be no long-term impacts to air quality from the Proposed Action.

3.3.9 Prime and Unique Farmlands

The project area is comprised primarily of agricultural lands. A review of the NRCS Soil Survey indicates that the project area does not contain any soils that would be classified as prime farmland, unique farmland, or farmland of statewide importance (Appendix A. Soil Survey).

3.3.9.1 No Action Alternative

Under the No Action Alternative up to 30 percent of irrigation water would be lost to seepage resulting in less water available for agricultural use. While there is no prime or unique farmland in the project area, the No Action Alternative may result in long-term negative impacts on farmland in the general vicinity of the project area due to water loss.

3.3.9.2 Proposed Action

A review of the NRCS Soil Survey indicates that there is no prime, unique, or statewide important farmland in the project area. Given the nature of the project (i.e. piping an existing canal), and the fact that no permanent right-of-way would be required for project implementation nor would there be conversion of existing farmland into non-agricultural uses, the Proposed Action would have no impact on farmland.

3.3.10 Floodplains

Executive Order 11988: Floodplain Management (E.O. 11988) (May 24, 1977) established Federal policy for each agency to take action to reduce the risk of flood loss. E.O. 11988 defines a floodplain as lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year. Encroachment onto floodplains can reduce the flood-carrying capacity of the floodplain and extend the flooding hazard beyond the encroachment area.

According to information obtained from the Federal Emergency Management Agency's Flood Insurance Mapping system, the project is located outside of mapped floodplain areas (FEMA 2016). There are no known floodplains, rivers or other flood hazards in the project area.

3.3.10.1 No Action Alternative

Under the No Action Alternative, the existing conditions of the project area would be maintained and there would be no impacts to the floodplain or the potential for flooding.

3.3.10.2 Proposed Action

The Proposed Action would not create any new structures or flooding hazards in the project area. Precipitation and other water that is currently collected in the

open laterals would sheet flow and percolate into the ground after the laterals are piped. Furthermore, there are no floodplains or other flood hazards in the project area. Therefore, the Proposed Action would have no impact on floodplains or the potential for flooding in the project area.

3.3.11 Wetlands, Riparian Vegetation, Noxious Weeds and Existing Vegetation

3.3.11.1 Wetlands and Riparian Vegetation

Riparian vegetation exists along both laterals and is contained primarily within and intermittently along the laterals. Vegetation consists predominantly of willows (*Salix* spp.), wire rush (*Juncus balticus*), plains cottonwood (*Populus deltoids*), and narrowleaf cottonwood (*Populus angustifolia*). Reed canary grass (*Phalaris arundinacea*) and Canada thistle (*Cirsium arvense*) are also found in locations within the project area.

The U.S. Fish and Wildlife Service (USFWS National Wetlands Inventory (NWI) database was consulted to evaluate the presence of wetland features in the project vicinity. Field surveys were also performed by a qualified wetland specialist in September 2016 and May 2017. The NWI map and the information obtained during the field assessment indicates that there are areas of freshwater emergent wetland vegetation located within the canal prisms (Appendix D. Wetland Resources). This wetland vegetation is likely irrigation-induced and found in low-lying areas within the canal laterals and adjacent to agricultural land.

3.3.11.2 Noxious Weeds

Noxious weeds and nonnative species exist throughout the project area, specifically along roadways, canals and other highly disturbed areas. Noxious weeds present within the project area include Scotch thistle (*Onoprodum acanthium*), spotted knapweed (*Centaurea maculosa*) and Dyer's Woad (*Isatis tinctoria*).

3.3.11.3 Existing Vegetation

Most of the land in the project area is comprised of nuisance plant species because of agricultural practices. Agricultural activities have replaced native upland vegetation with alfalfa and pasture grasses. Non-agricultural vegetation such as cheatgrass (*Bromus tectorum* L.) and thistle (*Cirsium* spp.) are more common in disturbed areas along roadways. In addition to the plant species associated with the human-altered environment, the project area contains some native upland vegetation species, such as big sagebrush (*Artemesia tridentata*), rabbit brush (*Chrysothamnus* spp. and *Ericameria nauseosa*), juniper (*Juniperus* spp.), and wheatgrass (*Agropyron* spp.).

3.3.11.4 No Action Alternative

The existing vegetation in the project area would remain in its current condition, experiencing minor fluctuations in quantity and quality, as naturally occurring precipitation patterns vary. Routine canal maintenance would continue to disturb

riparian vegetation that exists along the canal. The area is likely to see an increase in the composition and infestation of noxious and non-native species, due to their ability to thrive in disturbed areas. Though periodically removed within the laterals during maintenance, nonnative and noxious plant species would likely increase their dominance within the project area, resulting in degradation of habitat quality. Therefore, the No Action Alternative may result in a minor, long-term negative impact to riparian vegetation in the project area.

Under the No Action Alternative, heavy equipment used during routine maintenance of the canals would continue to have minor impacts on the upland vegetation in the project area. These plant species would remain in their current composition and distribution and are not anticipated to experience sizeable gains or losses from maintenance activities.

3.3.11.5 Proposed Action

Under the Proposed Action, irrigation-induced riparian vegetation would be permanently impacted by the piping of the laterals. Piping the laterals would result in a complete loss of irrigation-induced riparian vegetation reliant on seepage from the laterals. Areas of riparian vegetation could experience an increase in nonnative species if unmanaged. These could include tamarisk and Russian olive, which may be able to out-compete native species for limited water supplies when irrigation flows cease.

As required by the Colorado River Basin Salinity Control Act (43 U.S.C. 1571-1599), any fish and wildlife values lost because of project implementation, including the loss of the riparian vegetation, would be replaced by EVIDD through a habitat replacement plan, approved by Reclamation, following coordination with Federal and state wildlife officials. Replacement habitat must be of an equal or greater value to the riparian habitat lost by the proposed project and must be managed to maintain its value for the life of the salinity control project (typically 50 years). After viewing the entire lateral alignments, the habitat quality score (HQS) for the existing habitat was evaluated onsite by qualified biologists (Appendix E. Habitat Replacement Plan).

According to the U.S. Army Corps of Engineers (USACE), the replacement of open channel irrigation with a pipe is considered an irrigation exemption under Regulatory Guidance Letter No. 07-02 Exemption for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches under Section 404 Part 323.4(a)(3) of the CWA. Under this exemption, no USACE permitting is required for impacts to irrigation-induced wetlands. The Proposed Action would avoid the small wetland located next to the new portion of the alignment along the Farson F2D Lateral (Figure 3-1, Wetland Exhibit). This area would be fenced off prior to construction to prevent any construction equipment from entering the area. All appropriate erosion and sediment control measures would be implemented to protect waters and wetlands. Therefore, no wetlands would be affected by the Proposed Action (Figure 3-1, Wetland Exhibit).

Upland areas surrounding the canal prism may experience short-term losses of vegetation due to construction activity. During construction, grasses would be impacted by the operation of equipment, excavation activities, and the staging of materials. All areas disturbed by construction activities would be re-contoured and reseeded. After completion of the re-contouring and reseeding, relatively little native habitat would be permanently lost when compared to the current condition. Upland vegetation communities would likely be reestablished, and some previously disturbed areas may see an increase in native species composition after reseeding. Areas that are disturbed may be more vulnerable to non-native species and noxious weed infestation. To minimize impacts to native vegetation, previously disturbed areas would be used for construction activities, where possible. Cultivated lands that are disturbed by construction activities would be reseeded with an appropriate agricultural mix.

BMPs would be implemented to reduce impacts to native vegetation, including staging materials outside of sensitive areas, such as stream banks and wetlands. Construction materials and equipment would be washed prior to entering the project area to remove dirt, seeds from weeds, and to reduce the possibility of infestation by nonnative species. After any surface disturbance, proper rehabilitation procedures would be followed to prevent the infestation of invasive species. This would include seeding mixtures of desirable native species and agricultural grasses where appropriate, and post-construction herbicide treatment to control noxious and invasive species.

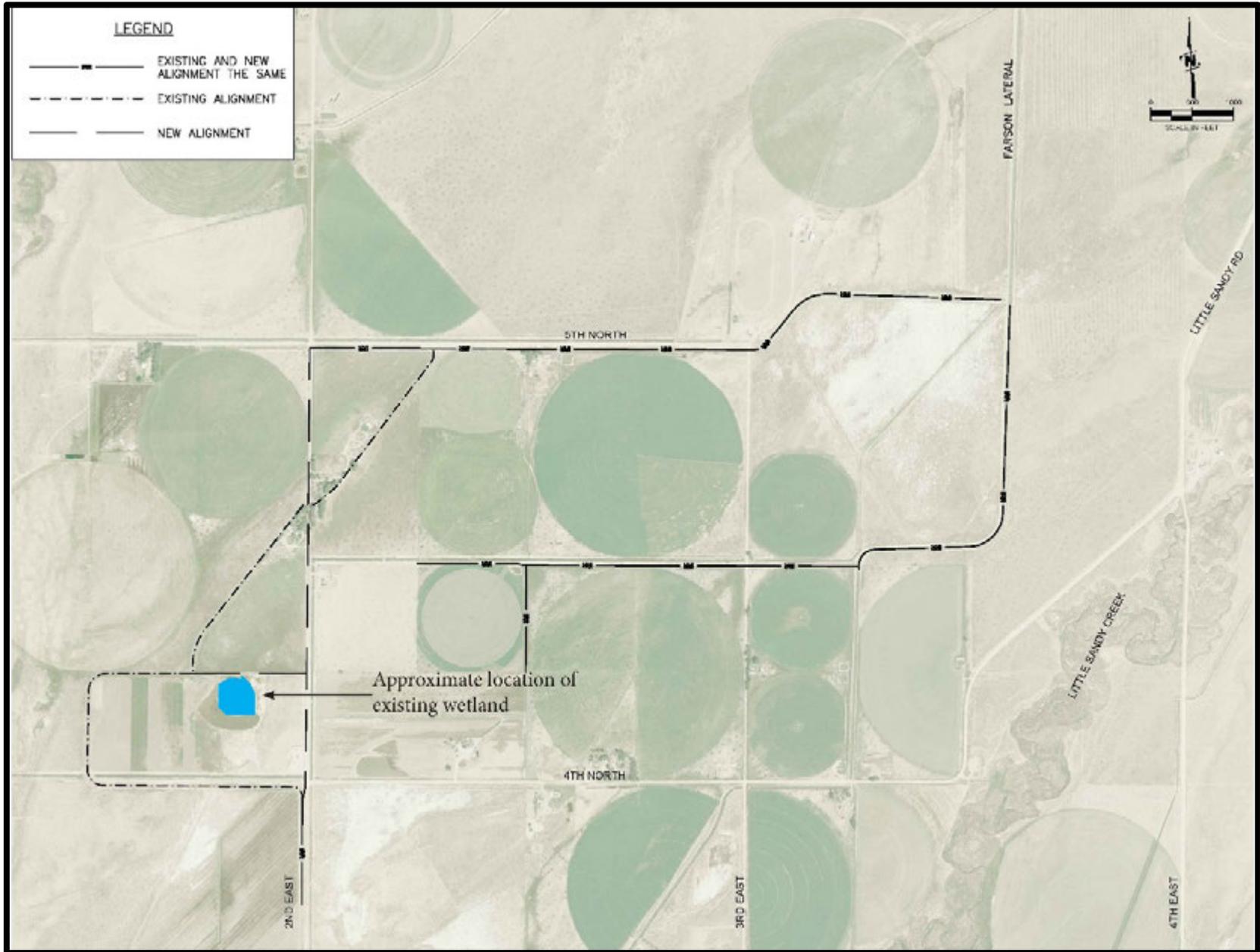


Figure 3-1, Wetland Exhibit

3.3.12 Fish and Wildlife Resources

Fish and wildlife in the project area vicinity include large mammals, small mammals, raptors, waterfowl, migratory songbirds, upland game birds, and a small number of reptiles and amphibians. The Farson Laterals do not contain any viable fish habitat (Appendix F. Biological Resources).

It is likely that all animals near the project area rely to some extent on the Farson Laterals for water. However, the Big Sandy River, Little Sandy Creek, and Eden Reservoir are within 2-4 miles of the Proposed Action, which would provide alternative water sources for the wildlife that may have relied on the Farson Laterals.

3.3.12.1 Fish

There is no viable fish habitat in the project area. The laterals are classified as Class 4A waterways, which do not support fish populations.

3.3.12.2 Wildlife

The areas surrounding the proposed project area provide year-round habitat to several species of big game, such as pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), and Rocky Mountain elk (*Cervus elaphus nelsoni*). In addition, other mammals frequent the project vicinity area. These species include, coyote (*Canis latrans*), pocket gopher (*Thomomys talpoides*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*).

3.3.12.3 Birds

Various raptors, waterfowl, and upland game bird species may be found year-round in and near the project area including red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), and mourning dove (*Zenaida macroura*). Seasonally, a variety of migratory songbirds may also pass through the project area vicinity.

3.3.12.4 Reptiles and Amphibians

Reptiles and amphibians that may occur in the project area include the tiger salamander (*Ambystoma tigrinum*), northern sagebrush lizard (*Sceloporus graciosus graciosus*), and prairie rattlesnake (*Crotalus viridis*).

3.3.12.5 No Action Alternative

Under the No Action Alternative, fish and wildlife habitat would remain in its current condition. Salinity loading of the Colorado River Basin would continue at current rates, which may affect water quality within the drainage area, thereby potentially degrading the quality of habitat within the drainage area for aquatic plant and animal species, and ultimately for other wildlife species that rely on healthy riparian ecosystems.

3.3.12.6 Proposed Action

The Proposed Action may result in minor short-term impacts to wildlife species present in the project area. There would be some upland habitat temporarily lost due to pipeline construction but similar habitat is available in the surrounding areas.

Areas disturbed by construction would be re-contoured and reseeded with native vegetation currently used by wildlife, except in agricultural fields, where appropriate crop seeds would be used. BMPs would be followed to minimize impacts, including placing staging sites and access roads in previously disturbed areas. After any surface disturbance, proper rehabilitation procedures would be followed to prevent the infestation of invasive weed species. This would include seeding the disturbed areas with mixtures of desirable native species, including grasses, shrubs, and forbs.

During pipeline construction, there could be a short-term displacement (approximately three to six months) of wildlife that normally occupy the immediate area. All construction activities would occur within a 100-foot wide area along the proposed pipeline alignment. Generally, wildlife would move easily and find alternative areas for forage and cover, and may return after construction and maintenance operations have been completed. Some upland habitats would experience short-term disturbance until native vegetation components within these areas are restored (two to three growing seasons).

Impacts to small mammals, especially burrowing animals, would result from direct mortality and displacement during construction activities. Small mammal species may experience reduced numbers in direct proportion to the amount of disturbed habitat. These species and habitats are relatively common throughout the area and any losses would be minor.

Impacts to big game would include short-term disturbances and displacement of incidental use during the construction period. The Proposed Action area is not located within crucial habitat for wintering game animals based on Wyoming Game and Fish Department (WGFD) statewide Habitat Priority Area maps. Anticipated construction activities may temporarily deter game animals (mule deer, pronghorn, and elk) from passing through the immediate construction area of the proposed project. However, no long-term impacts to wildlife migration patterns would be anticipated. Once construction is complete, the Proposed Action would not impact wildlife migration patterns.

Impacts to raptors and other avian species would include minor short-term disturbance and displacement during construction, with no long-term impacts after construction. Any vegetative clearing would take place outside of the migratory bird nesting season and therefore would not impact breeding or nesting. All disturbed soils or areas of vegetation removal would be reseeded with native plant species seed appropriate to the growing conditions of the proposed project

area. Fewer than five trees may be removed, or trimmed, as part of the proposed project actions. However, where at all possible, tree removal would be avoided. Any tree removal or trimming would take place outside of the migratory bird nesting season.

Those species, including avian, amphibian, and mammalian species, which are dependent on the riparian habitats that exist because of the open canal, would experience a long-term (i.e. greater than five years) loss of habitat as described above. The total habitat value that would be lost long-term would be mitigated through the implementation of a habitat replacement plan approved by Reclamation (Appendix D. Habitat Replacement Plan).

The Proposed Action would result in a decrease in salinity, which would improve water quality in the Colorado River Basin and potentially indirectly benefit fish and wildlife species within the Colorado River System.

3.3.13 Threatened, Endangered, and Sensitive Species

The Endangered Species Act (ESA) lists four endangered species, two threatened species, and one experimental population of an endangered species in the project vicinity. Species listed as endangered include the bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), and razorback sucker (*Xyrauchen texanus*). The yellow-billed cuckoo (*Coccyzus americanus*), and Ute ladies'-tresses (*Spiranthes diluvialis*) is listed as a threatened species, and the black-footed ferret (*Mustela nigripes*), is an experimental population (Appendix F. Biological Resources). These species and the status of documented occurrences in the project area are detailed in Table 3.3.

**Table 3-3
Federally Listed Species with Potential to Occur within the
Proposed Action Area**

Species	ESA Status	Documented Occurrence in Proposed Action Area
Bonytail chub (<i>Gila elegans</i>)	Endangered	No
Colorado pikeminnow (<i>Ptychocheilus lucius</i>)	Endangered	No
Humpback chub (<i>Gila cypha</i>)	Endangered	No
Razorback sucker (<i>Xyrauchen texanus</i>)	Endangered	No
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	Threatened	No

Species	ESA Status	Documented Occurrence in Proposed Action Area
Black-footed ferret (<i>Mustela nigripes</i>)	Experimental Population, Non-essential	Last occurrence documented in 1984; Consultation not required unless on lands administered by USFWS or NPS
Ute ladies'-tresses (<i>Spiranthes diluvialis</i>)	Threatened	No

The Wyoming Natural Diversity Database (WYNDD) maintains a central database for Species of Concern in Wyoming. On January 18, 2016, the WYNDD provided a download from the database regarding information on State Species of Concern with documented occurrences in the proposed project vicinity. The WYNDD database identified one State Species of Concern with records of occurrence within a six-mile radius: the black-footed ferret (*Mustela nigripes*) (WYNDD 2018). According to the USFWS IPaC Report, the black-footed ferret population in the vicinity of the project is an experimental population, and consultation is required only when a project is proposed on lands administered by the USFWS or the National Park Service (NPS). The proposed project is located entirely on private land, and according to the WYNDD, the last known occurrence of the black-footed ferret in the project area was recorded in 1984 in short-grass prairie habitat (WYNDD, 2018). No suitable habitat of this type is present within the boundaries of the project area (Appendix F. Biological Resources).

Site visits were conducted by a qualified biologist in September 2016 and May 2017 (Appendix F. Biological Resources). Information obtained during the biological site assessment indicates that there is no suitable habitat for any of the threatened Colorado River fish or the yellow-billed cuckoo. Depletions in tributaries of the Colorado River can also affect the aforementioned threatened fish species; however, no additional depletions are anticipated because of the Proposed Action. Lastly, information obtained during site visits by Reclamation biologists performed in August 2015 and August 2016 suggest that there is no suitable habitat for the Ute ladies'-tresses in and adjacent to the project area.

3.3.13.1 No Action Alternative

The No Action Alternative may have a long-term negative impact on Threatened, Endangered and Sensitive Species. Salinity loading of the Colorado River Basin would continue at current rates, which may affect water quality within the drainage area, thereby potentially degrading the quality of habitat within the drainage area for aquatic plant and animal species, and ultimately for other wildlife species that rely on healthy riparian ecosystems.

3.3.13.2 Proposed Action

There are no recent documented occurrences of Federally listed threatened, endangered, or candidate species within the project area. Biological site surveys determined that the Proposed Action would have no effect on the seven Federally listed species identified as potentially occurring within the project area (Appendix F. Biological Resources).

3.3.14 Socioeconomics

Information obtained from the 2010 U.S. Census, indicates that Farson, Wyoming has a total population of 313 residents. The primary socioeconomic drivers in the Farson-Eden area are agricultural and services related activities such transportation and construction (ACS 2015). The median annual income in Sweetwater County, Wyoming was \$36,685 in 2015 (ACS 2015). Data regarding the economic standing of residents located along the precise project corridor was not available at the time that this EA was prepared. However, 2010 U.S. Census data indicates that 7.8 percent of Sweetwater County residents' incomes were below the poverty level. Therefore, a low-income population may exist in the general vicinity of the project area.

3.3.14.1 No Action Alternative

Under the No Action Alternative, existing socioeconomic conditions are anticipated to continue. The No Action Alternative may pose a long-term negative effect on socioeconomic conditions of those who rely on the EVIDD Farson Laterals for agricultural activities. Over time, the continued water system inefficiency and degradation of the Farson laterals could pose reduced socioeconomic opportunities and activities for those living in the project area. These socioeconomic impacts would stem from the lack of available irrigation water and impacts to the length of the irrigation/growing seasons for crops. Crop yields would likely be impacted by the reduced availability of irrigation water as more water would be continued to be lost along the open unlined laterals.

3.3.14.2 Proposed Action

The project area is located on privately owned land in Sweetwater County, Wyoming. After a review of the 2010 Census information, populations that could potentially be affected by the project were evaluated. The Proposed Action would not involve population relocation, property takings, or substantial economic impacts, therefore, it is not anticipated to have any impact on the socioeconomic conditions in the project area or the general vicinity.

3.3.15 Access and Transportation

Transportation resources in the project area in local roadways such as Farson 5th North, Farson 2nd East, Farson 3rd East and Farson 4th North. There are no major transportation facilities located in the project area. U.S. Highway 191 and Wyoming Highway 28 run on either side of the general area of the proposed project, but not through the actual project area. There are no major arterial roadways or access points for U.S. Highway 191 and Wyoming Highway 28 in the project area.

For construction purposes only, a temporary access road would be constructed, providing construction equipment, material and vehicles efficient access to the construction corridor.

3.3.15.1 No Action Alternative

There would be no changes to the access and transportation routes presently in operation under the No Action Alternative. It is reasonable to determine that the No Action Alternative could pose a minor long-term negative effect to transportation resources from the continue degradation of the bridge that crosses F2, which is not structurally sound. The No Action Alternative would leave this failing, unsafe bridge without a resolution for its replacement.

3.3.15.2 Proposed Action

The Proposed Action would remove the existing bridge structure that currently crosses the F2 Lateral and is located on Farson 3rd East. The bridge structure is failing and not structurally sound. Furthermore, the Proposed Action would pipe the F2 Lateral so there would no longer be a need for a bridge at this location. The Farson 3rd East roadway through the project area would be re-contoured to meet the existing grade of the roadway. This portion of Farson 3rd East would be temporarily closed during construction. Access would be provided along existing roadways located to the east and west.

The temporary road would be coordinated with local law enforcement and emergency services. The Proposed Action may cause limited delays on local and county roads due to construction vehicles entering and exiting the area. Therefore, there are no anticipated long-term impacts to access or transportation resources from the Proposed Action.

3.4 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property held in trust by the United States for Federally recognized Indian Tribes or Indian individuals. Assets can be real property, physical assets, or intangible property rights, such as lands, minerals, hunting and fishing rights, and water rights. The United States has an Indian trust responsibility to protect and maintain rights reserved by or granted to such tribes or individuals by treaties, statutes, and executive orders. These rights are sometimes further interpreted through court decisions and regulations. This trust responsibility requires that Federal agencies take all actions reasonably necessary to protect trust assets. Reclamation carries out its activities in a manner which protects these assets and avoids adverse impacts when possible. When impacts cannot be avoided, Reclamation would provide appropriate mitigation or compensation. Implementation of the Proposed Action would have no foreseeable negative impacts on ITAs.

3.5 Environmental Justice

Executive Order 12898 established Environmental Justice as a Federal agency priority to ensure that minority and low-income groups are not disproportionately affected by Federal actions.

Information obtained from the 2010 U.S. Census, indicates that Farson, Wyoming has a total population of 313 residents. Of these residents, 8 percent identified as an ethnic minority. Data regarding the economic standing of residents located along the project corridor was not available at the time this EA was prepared. 2010 U.S. Census data indicates that 7.8 percent of Sweetwater County residents' incomes were below the poverty level, indicating a minority and/or low-income population exists in the project vicinity.

The Proposed Action would not involve population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts, which would result in the Proposed Action not disproportionately (unequally) affecting any low-income or minority communities within the project area. This action would, therefore, have no adverse human health or environmental effects on minority or low-income populations.

3.6 Cumulative Effects

In addition to project-specific impacts, Reclamation analyzed the potential for significant cumulative impacts to resources affected by the project and by other past, present, and reasonably foreseeable activities within the watershed. According to the Council on Environmental Quality's (CEQ) regulations for implementing NEPA (50 CFR §1508.7), a "cumulative impact" is an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. It focuses on whether the Proposed Action, considered together with any known or reasonably foreseeable actions by Reclamation, other Federal or State agencies, or some other entity combined to cause an effect.

The Proposed Action would comply with all relevant Federal, state and local permits. Long-term impacts would not create negative cumulative impacts to environmental resources. This conclusion is demonstrated by other salinity control projects related to the lateral systems of the Upper Colorado River Basin being implemented by Reclamation over the past ten years (see Section 1.6). These salinity control projects have resulted in a positive cumulative impact on water quality.

Based on results from past projects and Reclamation’s review of the Proposed Action, Reclamation has determined that the Proposed Action would not have a significant adverse cumulative effect on any resources.

3.7 Summary of Environmental Effects

Table 3-4 summarizes environmental effects under the No Action Alternative and the Proposed Action. This table does not include resources that were eliminated from analysis (Table 3-1).

**Table 3-4
Summary of Environmental Effects**

Project Resource	No Action	Proposed Action
Geology and Soil Resources	Minor long-term increases to soil erosion and sedimentation.	Minor short-term effects during and shortly after construction. Mitigate with BMPs.
Visual Resources	No Effect	No long-term impacts. Minor temporary impacts from construction activities.
Cultural Resources	No Effect	Adverse effect to Site 48SW17798. An MOA would be implemented to mitigate for impacts to cultural resources.
Paleontological Resources	No Effect	No Effect
Hydrology	Water lost to seepage would continue at a rate of up to 30 percent annually. Long-term minor to moderate impacts.	Long-term benefit due to increased efficiency of the water delivery system and reduction of salt in the adjacent waterways.
Water Quality	Continued salt loading of the Colorado River Basin. Long-term minor to moderate negative impacts.	Long-term benefits to water quality from the decreased salinity loading.
System Operations	Long-term minor to moderate impacts from deteriorating system and maintenance requirements.	Long-term benefits from increased efficiency and decreased maintenance.

Project Resource	No Action	Proposed Action
Health, Safety, Air Quality and Noise	No Effect	Minor short-term effects due to air quality and noise from construction activity. Mitigate with BMPs.
Prime and Unique Farmlands	No Effect	No Effect
Floodplains	No Effect	No Effect
Wetlands, Riparian, Noxious Weeds, and Existing Vegetation	Minor long-term effects due to operational maintenance.	There would be minor permanent loss of irrigation-induced riparian vegetation along the laterals. The loss would be mitigated through the Habitat Replacement Plan (Appendix E). Short-term upland vegetation loss with the potential for an increase in invasive plants. BMPs would be employed to decrease the likelihood of invasive species.
Fish and Wildlife Resources	Minor long-term impacts to water quality affecting wildlife habitat.	Minor short-term disturbance and displacement during construction. Downstream fish habitat in the Big Sandy, Green and Colorado Rivers may be improved as a result of long-term increased water quality. There would be permanent loss of small riparian areas within the project area. A Habitat Replacement Plan would be implemented to replace foregone wildlife values (Appendix E).
Threatened, Endangered, and Sensitive Species	No Effect	No Effect

Project Resource	No Action	Proposed Action
Socioeconomics	Potential long-term negative impact to socioeconomic resources related to agricultural activities.	No Effect
Access and Transportation	Minor long-term negative impact from deteriorating bridge on Farson 3 rd East.	Minor temporary disruptions along Farson 3 rd East. Minor disruptions are also possible along local and county roads due to construction traffic entering and exiting the area. Mitigate by coordinating with the Sweetwater County Public Works and Lands Use Department and by obtaining all required Sweetwater County permits.
Indian Trust Assets	No Effect	No Effect
Environmental Justice	No Effect	No Effect
Cumulative Effects	No Effect	Beneficial long-term effects from the cumulative results of salinity control projects that have taken place throughout the EVIDD system.

Chapter 4 Environmental Commitments

This chapter outlines the environmental commitments that have been developed, along with the minimization measures detailed in Section 2.6, to lessen the potential adverse effects of the Proposed Action.

4.1 Environmental Commitments

The following environmental commitments would be implemented as an integral part of the Proposed Action.

1. Standard Reclamation Best Management Practices - Standard Reclamation BMP would be applied during construction activities to minimize environmental effects and would be implemented by the contractor and included in construction specifications. Such practices or specifications include sections in the present EA on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, wildlife and threatened and endangered species. Excavated material and construction debris may not be wasted in any stream or river channel in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at a Reclamation approved upland site well away from any channel. Construction materials, bedding material, excavation material, etc. may not be stockpiled in riparian or water channel areas. Silt fencing would be appropriately installed and left in place until after revegetation becomes established, at which time the silt fence can then be carefully removed. Machinery must be fueled and properly cleaned of dirt, weeds, organisms, or any other possibly contaminating substances offsite prior to construction.
2. Additional Analyses - If the Proposed Action were to change significantly from that described in this EA because of additional or new information, or if other spoil, or work areas beyond those outlined in this analysis are required outside the defined project construction area, additional environmental analyses may be necessary.
3. WYPDES Permit - A WYPDES Permit would be required from the State of Wyoming before any discharges of water, if such water is to be discharged as a point source into a regulated water body. Appropriate measures would be taken to ensure that construction related sediments would not enter the stream either during or after construction. Settlement

ponds and intercepting ditches for capturing sediments would be constructed, if necessary, and the sediment and other contents collected would be hauled off site for appropriate disposal upon completion of the project.

4. Fugitive Dust Control Permit - The Air Quality Division (AQD) of the WDEQ regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than one-quarter of an acre. Wyoming Standards and Regulations ARR12-004, requires steps be taken to minimize fugitive dust from construction activities. Sensitive receptors include those individuals working at the site or motorists that could be affected by changes in air quality due to emissions from the construction activity.
5. Cultural Resources - In the case that any cultural resources, either on the surface or subsurface, are discovered during construction, Reclamation's Provo Area Office archeologist shall be notified and construction in the area of the inadvertent discovery would cease until an assessment of the resource and recommendations for further work can be made by a professional archeologist.
6. Inadvertent Discovery - Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on Federal land, he/she must provide immediate telephone notification of the discovery to Reclamation's Provo Area Office archaeologist. Work would stop until the proper authorities are able to assess the situation onsite. This action would promptly be followed by written confirmation to the responsible Federal agency official, with respect to Federal lands. The Wyoming SHPO and interested Native American Tribal representatives would be promptly notified. Consultation would begin immediately. This requirement is prescribed under the NAGPRA (43 CFR Part 10) and ARPA (16 U.S.C. 470).
7. Adverse Effect to Cultural Resources - A MOA would be executed to mitigate the adverse effect to 48SW17798. Mitigation for the adverse effects, set forth in the stipulations of the MOA, must be completed before construction activities associated with the Proposed Action begin.
8. Paleontological Resources - Should vertebrate fossils be encountered during ground disturbing actions, construction must be suspended until a qualified paleontologist can be contacted to assess the find.
9. Migratory Bird Protection - Any ground-disturbing activities or vegetation treatments would be performed before migratory birds begin nesting or after all young have fledged.

10. Previously Disturbed Areas - Construction activities would be confined to previously disturbed areas where possible for such activities as work, staging, and storage, waste areas and vehicle and equipment parking areas. Vegetation disturbance would be minimized as much as possible.
12. Public Access - Construction sites would be closed to public access. Temporary fencing, along with signs, would be installed to prevent public access. The project team would coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the Project area.
13. Disturbed Areas - All disturbed areas resulting from the Proposed Action would be smoothed, shaped, contoured, and rehabilitated to as near the pre-project construction condition as practicable. After completion of the construction and restoration activities, disturbed areas would be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes would be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas would be required. Successful revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.
14. Habitat Replacement Plan - As required by the Colorado River Basin Salinity Control Act (43 U.S.C. 1571-1599), any fish and wildlife values lost because of project implementation would be replaced by EVIDD through a habitat replacement plan approved by Reclamation following coordination with Federal and State wildlife officials (Appendix E. Habitat Replacement Plan). A habitat replacement plan would be developed and implemented as part of the proposed project. Replacement habitat would be of an equal or greater value to the wetland and riparian habitat lost by the proposed project and would be managed to maintain its value for the life of the salinity control project (typically 50 years).

Chapter 5 Consultation and Coordination

5.1 Introduction

This chapter details consultation and coordination between Reclamation and other Federal, State, and local Government Agencies, Native American Tribes, and the public during the preparation of this EA. Compliance with NEPA, is a Federal responsibility that involves the participation of these entities in the planning process. NEPA requires full disclosure about major actions taken by Federal agencies and accompanying alternatives, impacts, and potential mitigation of impacts.

5.2 Public Involvement

Reclamation's public involvement process presents the public with opportunities to obtain information about a given project and allows all interested parties to participate in the project through written comments. The key objective is to create and maintain a well-informed, active public that assists decision-makers throughout the process, culminating in the implementation of an alternative.

The project team met with adjacent landowners and the EVIDD board members throughout the EA process. This coordination would continue throughout the implementation of the Proposed Action.

A copy of the Draft EA was be sent to interested agencies and key stakeholders for review. Comments that were received during the public comment period were addressed and integrated into the EA as appropriate. For additional information please refer to Appendix G. Summary of Public Comments and Responses.

5.3 Native American Consultation

Reclamation conducted Native American consultation throughout the public involvement process. This consultation was conducted in compliance with 36 CFR 800.2(c)(2) on a government-to-government basis. Through this effort the tribe is given a reasonable opportunity to identify any concerns about historic properties; to advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance; to express their views on the effects of the Proposed Action on such properties; and to participate in the resolution of adverse effects. A consultation letter and copy of the Class III

Cultural Resource Inventory Report were sent to the Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes, Oklahoma, Comanche Nation, Oklahoma, Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, Northern Arapaho of Wind River, Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho, and the Shoshone Tribe of the Wind River Reservation on July 5, 2017.

5.4 Geological Survey

A paleontological file search was conducted using the USGS maps and Wyoming State Geological Survey online mapping tool. There are no known high-bearing fossil localities, areas of exposed bedrock or areas where excavation will extend into the bedrock.

5.5 Wyoming State Historic Preservation Office

A copy of the Class III cultural resource inventory reports and a determination of historic properties affected for the Proposed Action were submitted to the Wyoming SHPO on July 5, 2017. Wyoming SHPO responded with a letter dated July 10, 2017. In the letter, SHPO disagreed with Reclamation's findings on Site 48SW17798 in that they found the sub-laterals F2, F3 and F5 as contributing elements to the site. Further, SHPO found that the bridge, Site 48SW19674 is not eligible. Reclamation deferred to SHPO in these findings.

Chapter 6 Preparers

The following provides a list of the agency representatives and consultants who participated in the preparation of this EA.

**Table 6-1
Environmental Summary Preparers**

Name	Title	Company
Brian Deeter	Project Manager	J-U-B Engineers, Inc.
Sheri Murray Ellis	Archaeologist	Certus Environmental Solutions, LLC.
Autumn Foushee	Ecologist	J-U-B Engineers, Inc.
Jon Frazier	Project Engineer	J-U-B Engineers, Inc.
Marti Hoge	Environmental Lead	J-U-B Engineers, Inc.
Josh Hogge	Designer	J-U-B Engineers, Inc.

**Table 6-2
Reclamation Team Members**

Name	Title	Resource
Jared Baxter	Fish and Wildlife Biologist, Reclamation Provo Area Office	Biological Resources
Rick Baxter	Water, Environmental, and Lands Division Manager	Document Oversight
Peter Crookston	Environmental Group Chief, Reclamation Provo Area Office	NEPA Oversight
Thomas Davidowicz	Fish and Wildlife Biologist, Reclamation Provo Area Office	Biological Resources
Dale Hamilton	Resource Management Division Manager	Health, Safety, Air Quality, and Noise
Jeff Hearty	Economist, Reclamation Provo Area Office	Socioeconomics
Linda Morrey	Secretary	Writing, Editing
Rachel Musil	Civil Engineer, Reclamation Provo Area Office	Water Rights
Zachary Nelson	Archaeologist, Reclamation Provo Area Office	Cultural Resources, Paleontological Resources, ITAs
Dave Snyder	Fish and Wildlife Biologist, Reclamation Provo Area Office	Biological Resources

Chapter 7 Acronyms and Abbreviations

Abbreviations	Meaning
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
ARPA	Archaeological Resource Protection Act
BIA	Bureau of Indian Affairs
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
EVIDD	Eden Valley Irrigation and Drainage District
FONSI	Finding of No Significant Impact
HQS	Habitat Quality Score
IPaC	Information for Planning and Consultation
ITA	Indian Trust Assets
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory Map
PM	Particulate Matter
PRPA	Paleontological Resources Preservation Act
Reclamation	U.S. Bureau of Reclamation
SHPO	Wyoming State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
WDAQ	Wyoming Air Quality Division
WDEQ	Wyoming Department of Environmental Quality
WWDO	Wyoming Water Development Office
WYNDD	Wyoming Natural Diversity Database

Chapter 8 References

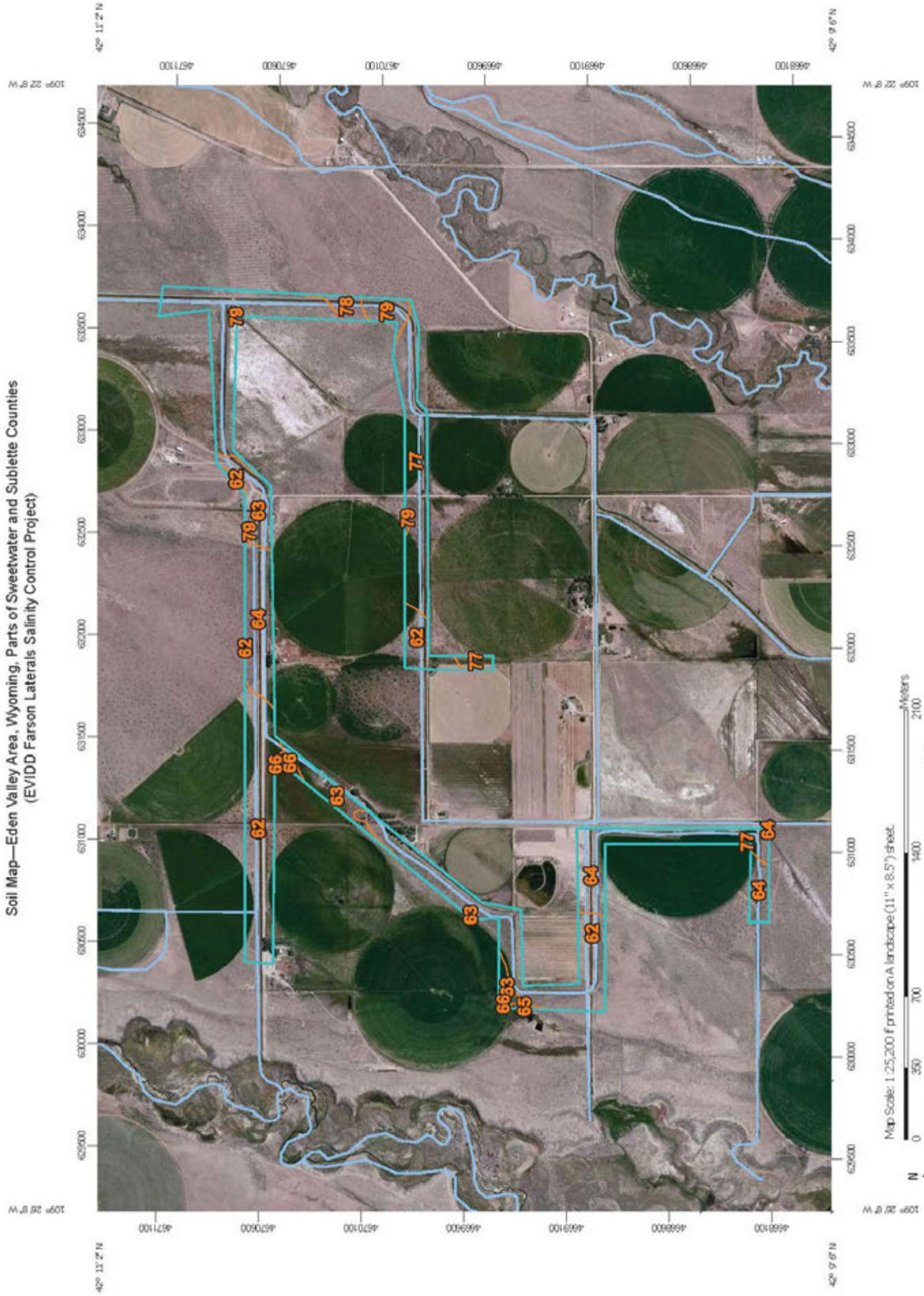
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Wyoming Water Development Office (WWDO). 2016. Green River Basin Water Plan Technical Memoranda. Cheyenne, Wyoming.

Wyoming Natural Diversity Database (WYNDD). 2018. *Rare Plant and Animal Occurrence Mapping*. Accessed on January 18, 2016.
<http://www.uwyo.edu/wndd>

Appendix A. Soil Survey

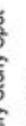
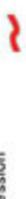
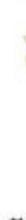
Soil Map—Eden Valley Area, Wyoming, Parts of Sweetwater and Sublette Counties
(EVIDD Farson Laterals Salinity Control Project)



Map Scale: 1:25,200 (printed on a landscape (11" x 8.5") sheet).

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soil Map Unit Polygons	 Stony Spot
 Soil Map Unit Lines	 Very Stony Spot
 Soil Map Unit Points	 Wet Spot
 Special Point Features	 Other
 Blowout	 Special Line Features
 Borrow Pit	Water Features
 Clay Spot	 Streams and Canals
 Closed Depression	Transportation
 Gravel Pit	 Rails
 Gravelly Spot	 Interstate Highways
 Landfill	 US Routes
 Lava Flow	 Major Roads
 Marsh or swamp	 Local Roads
 Mine or Quarry	Background
 Miscellaneous Water	 Aerial Photography
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eden Valley Area, Wyoming, Parts of Sweetwater and Sublette Counties
Survey Area Data: Version 14, Sep 14, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

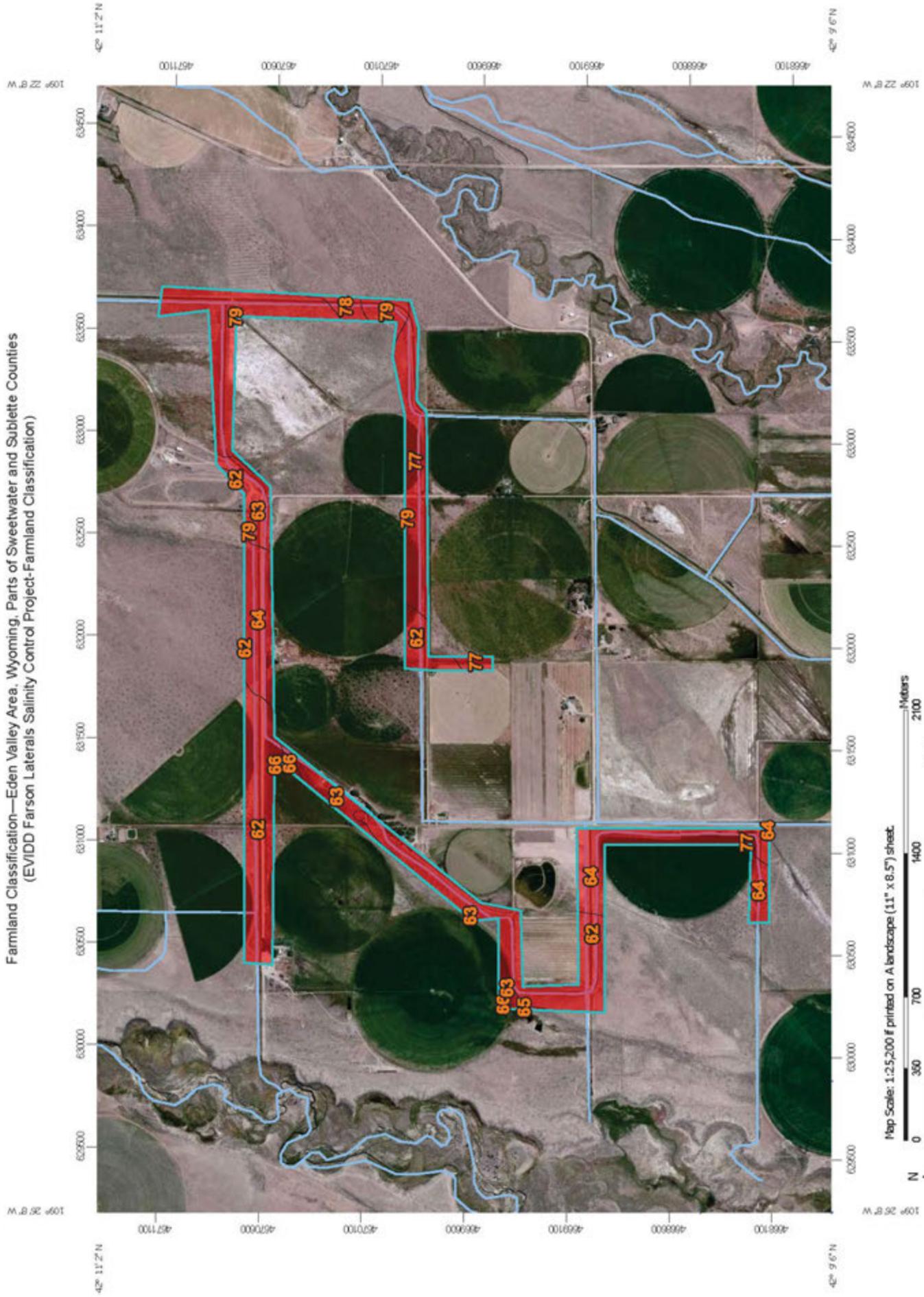
Date(s) aerial images were photographed: Aug 17, 2011—Sep 20, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Eden Valley Area, Wyoming, Parts of Sweetwater and Sublette Counties (WY636)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
62	Farson sandy loam, 0 to 1 percent slopes	109.1	36.6%
63	Farson sandy loam, 1 to 3 percent slopes	26.2	8.8%
64	Farson sandy loam, wet, 0 to 1 percent slopes	58.8	19.7%
65	Farson-Means sandy loams, 3 to 10 percent slopes	0.7	0.2%
66	Farson variant gravelly sandy loam, 0 to 1 percent slopes	1.8	0.6%
77	Means-Farson sandy loams, 0 to 1 percent slopes	44.5	14.9%
78	Means-Farson sandy loams, 1 to 3 percent slopes	4.7	1.6%
79	Means variant sandy loam, 0 to 1 percent slopes	52.1	17.5%
Totals for Area of Interest		298.0	100.0%

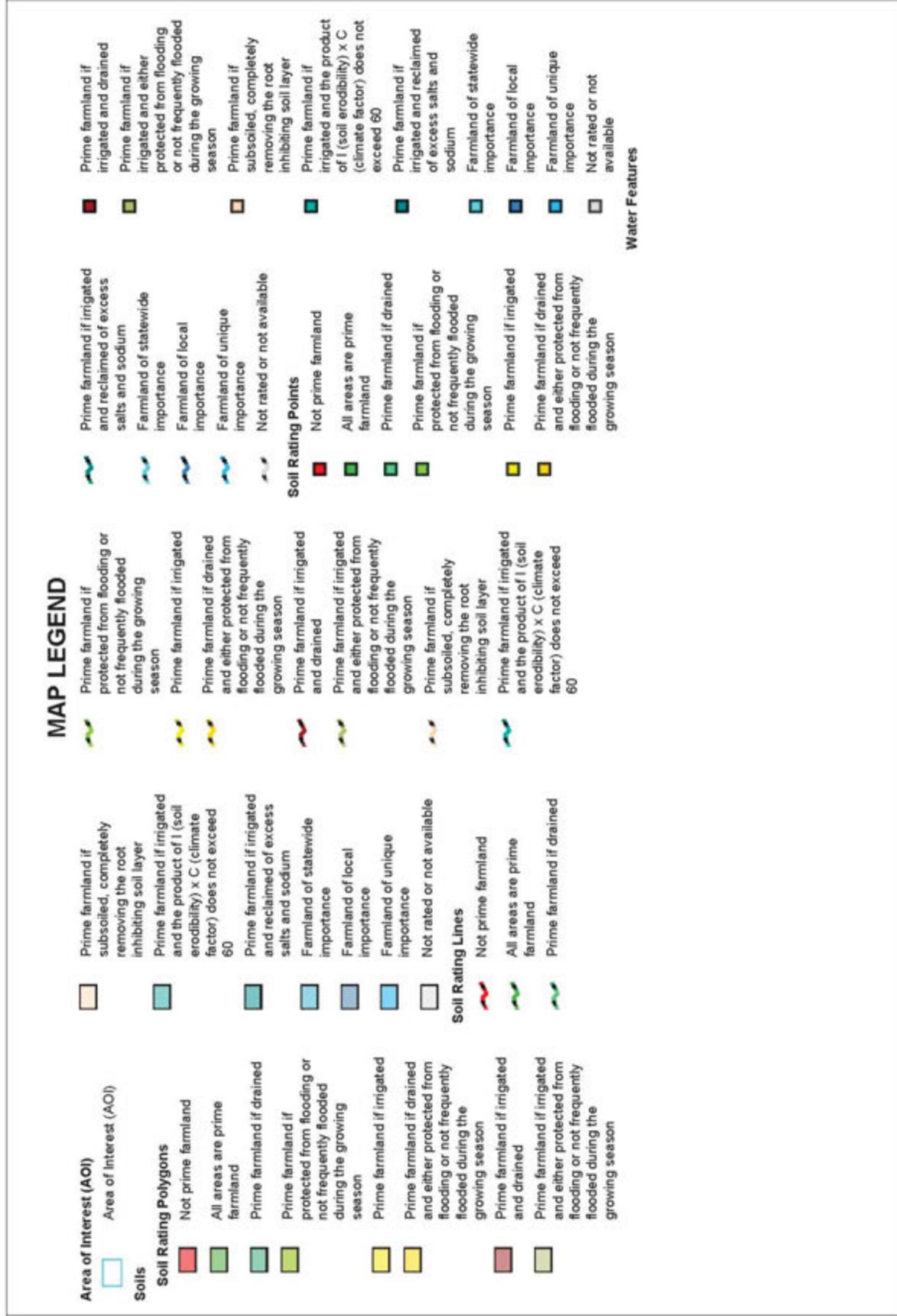
Farmland Classification—Eden Valley Area, Wyoming, Parts of Sweetwater and Sublette Counties
(EVIDD Farson Laterals Salinity Control Project-Farmland Classification)



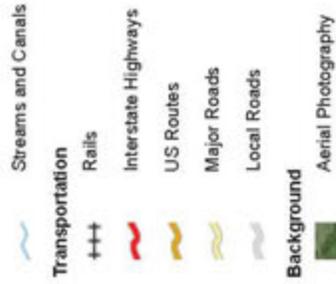
Map Scale: 1:25,200 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge lbs: UTM Zone 12N WGS84



MAP INFORMATION



The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eden Valley Area, Wyoming, Parts of Sweetwater and Sublette Counties
Survey Area Data: Version 14, Sep 14, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 17, 2011—Sep 20, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Eden Valley Area, Wyoming, Parts of Sweetwater and Sublette Counties (WY636)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
62	Farson sandy loam, 0 to 1 percent slopes	Not prime farmland	109.1	36.6%
63	Farson sandy loam, 1 to 3 percent slopes	Not prime farmland	26.2	8.8%
64	Farson sandy loam, wet, 0 to 1 percent slopes	Not prime farmland	58.8	19.7%
65	Farson-Means sandy loams, 3 to 10 percent slopes	Not prime farmland	0.7	0.2%
66	Farson variant gravelly sandy loam, 0 to 1 percent slopes	Not prime farmland	1.8	0.6%
77	Means-Farson sandy loams, 0 to 1 percent slopes	Not prime farmland	44.5	14.9%
78	Means-Farson sandy loams, 1 to 3 percent slopes	Not prime farmland	4.7	1.6%
79	Means variant sandy loam, 0 to 1 percent slopes	Not prime farmland	52.1	17.5%
Totals for Area of Interest			298.0	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Appendix B. Cultural Resources

ARTS. PARKS. HISTORY.

Wyoming State Parks & Cultural Resources

July 10, 2017

Wayne G. Pullan
Bureau of Reclamation
302 East 1860 South
Provo, UT 84606-7317

PRO Official File Copy

Received

JUL 10 '17

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Action
Project Edm
Classification ENV-3.00
Control CB07141702
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State Historic Preservation Office
Barrett Building, 3rd Floor
2301 Central Avenue
Cheyenne, WY 82002
Phone: (307) 777-7697
Fax: (307) 777-6421
<http://wyoshpo.state.wy.us>

re: Farson Laterals Piping Project, Sweetwater County, PRO-EA-16-014 (SHPO File #0717EMD002)

Notice if you detach enclosure insert code here:

Dear Mr. Pullan:

Thank you for consulting with the Wyoming State Historic Preservation Office (SHPO) regarding the referenced undertaking. We have reviewed the associated report and find the documentation meets the Secretary of the Interior's Standards for Archaeology and Historic Preservation (48 FR 44716-42). We concur with your determination that the Farson Lateral of the Means Canal (48SW17798) is a contributing segment of a resource eligible for listing in the National Register of Historic Places; however, we find that the sub-laterals of the Farson Lateral (F2, F3, and F5) are also contributing segments. Furthermore, we find that the Farson 3rd East Bridge (48SW19674) is not eligible for listing in the National Register of Historic Places.

We concur that 48SW17798 will be adversely impacted by the undertaking as planned. In accordance with 36 CFR § 800.6, we recommend the Bureau of Reclamation develop a Memorandum of Agreement (MOA), specifying the terms under which the adverse effects to the historic property will be minimized or mitigated. The agency official, SHPO, and the Advisory Council (should they choose to participate) are the signatories and consulting parties to the MOA. The agency official and the SHPO, in agreement with the agency official, may choose to invite additional parties to be signatories and to concur in the MOA. Invited signatories and consulting parties may include Native American tribes that attach religious or cultural significance to the historic property and any party that assumes a responsibility under the MOA.

Please refer to SHPO project #0717EMD002 on any future correspondence regarding this undertaking. If you have any questions, please contact me at 307-777-3418 or erica.duvic@wyo.gov.

Sincerely,

Erica Duvic
Historic Preservation Specialist



Matthew H. Mead, Governor
Darin J. Westby, P.E., Director



STATE **WYOMING** OFFICE
Historic Preservation

PRO Official File Copy
Received

FEB 26 2018

February 22, 2018

Wayne G. Pullan
Bureau of Reclamation
302 East 1860 South
Provo, UT 84606-7317

re: Farson Laterals Piping Eden Valley Habitat Replacement, Sweetwater County (SHPO File #0717EMD002)

Dear Mr. Pullan:

Thank you for consulting with the Wyoming State Historic Preservation Office (SHPO) regarding the above referenced undertaking. We have reviewed the associated report and find the documentation meets the Secretary of the Interior's Standards for Archaeology and Historic Preservation (48 FR 44716-42). We concur with your finding that no historic properties, as defined in 36 CFR § 800.16(l)(1), will be affected by the habitat replacement portion of the undertaking as planned.

We look forward to continuing consultation with your office regarding this undertaking. Please refer to SHPO project #0717EMD002 on any future correspondence regarding this undertaking. If you have any questions, please contact me at 307-777-3418 or erica.duvic@wyo.gov.

Sincerely,

Erica Duvic
Historic Preservation Specialist

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Action
Project
Classifier: EN/6-00/2201
Control
Folder
Notice if you detach enclosure insert code here:

Matthew H. Mead | Governor
Darin J. Westby, P.E. | Director
Sara Needles | Administrator



ARTS, PARKS,
HISTORY
Wyoming State Parks & Cultural Resources

COMANCHE NATION



Bureau of Reclamation, Upper Colorado Region, Provo Area
Attn: Mr. Zachary Nelson
302 East 1860 South
Utah 84606-7317

August 30, 2017

Re: National Historic Preservation Act (NHPA) Section 106 Consultation for the
Farson Lateral Piping Project (EA-16-014), Sweetwater County, Wyoming

Dear Mr. Nelson :

In response to your request, the above reference project has been reviewed by staff of this office to identify areas that may potentially contain prehistoric or historic archeological materials. The location of your project has been cross referenced with the Comanche Nation site files, where an indication of "**No Properties**" have been identified. (IAW 36 CFR 800.4(d)(1)).

Please contact this office at (580) 595-9960/9618 if you require additional information on this project.

This review is performed in order to identify and preserve the Comanche Nation and State cultural heritage, in conjunction with the State Historic Preservation Office.

Regards

Comanche Nation Historic Preservation Office
Theodore E. Villicana ,Technician
#6 SW "D" Avenue , Suite C
Lawton, OK. 73502



TRIBAL HISTORIC PRESERVATION
 P.O. BOX 167
 CONCHO, OKLAHOMA 73022

1-800-247-4612 Toll Free
 PRO Official File Copy
 405-422-7484 Telephone
Received

JUL 24 '17

Wayne G. Pullman
 Bureau of Reclamation
 302 East 1860 South
 Provo, UT 84606-7317

100 July 18, 2017
 105 THPO ID #: 803
 106
 625
 600

RE: National Historic Preservation Act Section 106 Consultation for the Farnsworth Lateral Piping Project (EA-16-014), Sweetwater County, Wyoming

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 Consultation
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Dear Consultant:

Notice if you detach enclosure insert code here:

On behalf of the Tribal Historic Preservation Office of the Cheyenne and Arapaho Tribes, thank you for the notice of the referenced project. I have reviewed your Consultation request under Section 106 of the National Historic Preservation Act regarding the project proposal and commented as follows:

At this time, it is determined to be categorized as **No Properties**; however, if at any time during the project implementation inadvertent discoveries are made that reflect evidence of human remains, ceremonial or cultural objects, historic sites such as stone rings, burial mounds, village or battlefield artifacts, please cease work in area of discovery and notify the THPO Office within 72 hours.

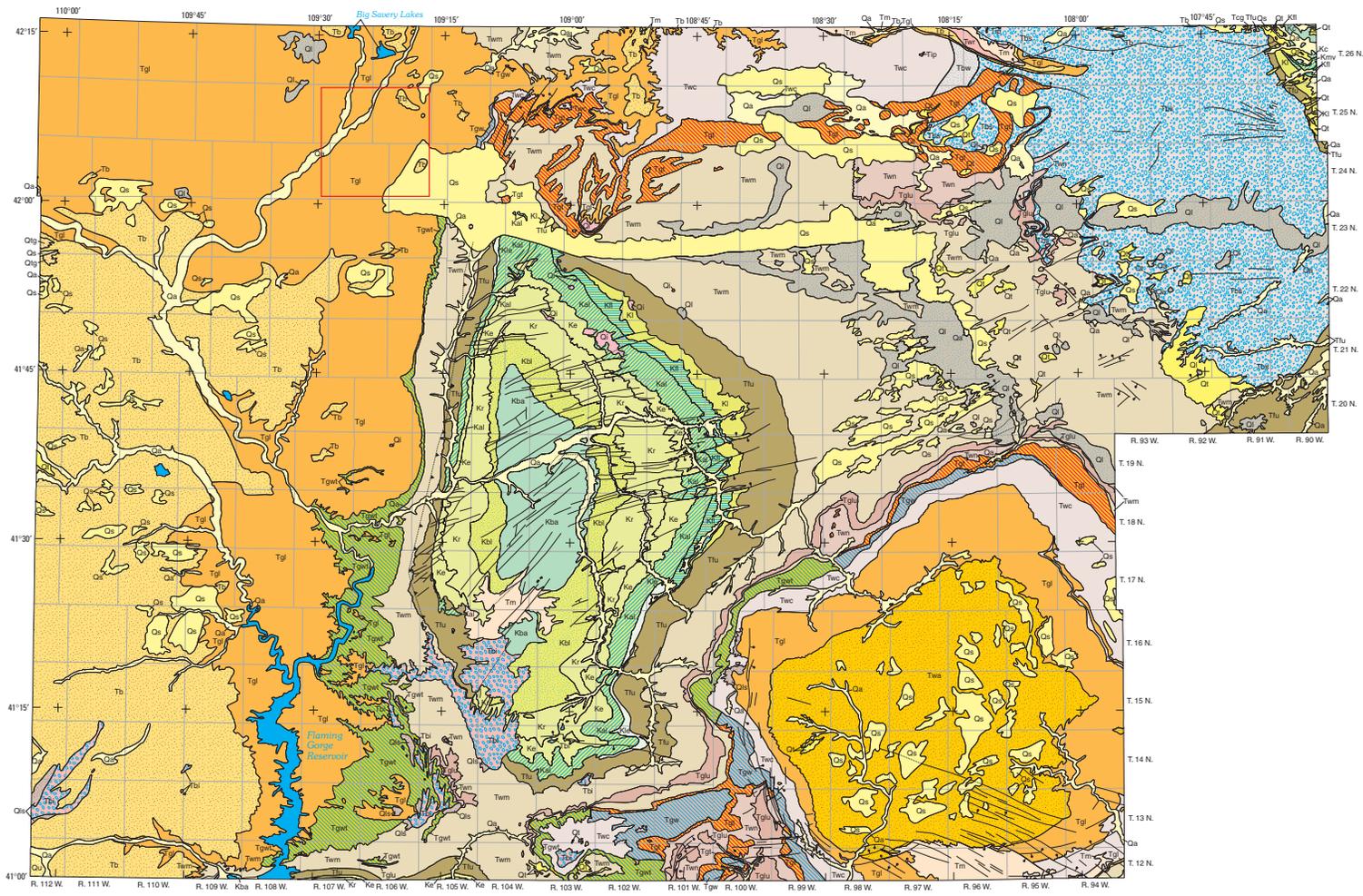
In addition, if inadvertent discoveries are made; pursuant to Title 36 Code of Federal Regulation Part 800.13, as amended; you will also be required to make arrangements for a professional archaeologist to visit the site of discovery and assess the potential significance of any artifacts or features that were unearth. If needed, we will contact the Tribes NAGPRA representatives.

Please contact me at (405) 422-7484 or vrichey@c-a-tribes.org, if you have any questions or concerns. Alternate contact is Micah Demery; she can be reached directly at (405) 422-7416 or mdemery@c-a-tribes.org. Thank you again for your notification!

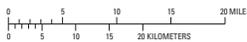
Best Regards,

Virginia Richey
 Tribal Historic Preservation Office/THPO

Appendix C. Paleontological Resources



Planimetric base modified from U.S. Dept. of Commerce, Bureau of the Census digital data, 2001
 Public land survey system from Wyoming Water Resources Center digital data, 1994
 Hydrography modified from USGS National Hydrography Dataset (NHD) digital data, 1999
 Lambert Conformal Conic projection
 Standard parallels 41° and 42°, central meridian -108°45'



Geology from Love, J.D., and Christiansen, A.C., 1985

- QUATERNARY UNCONSOLIDATED DEPOSITS AND IGNEOUS ROCKS**
- Qa **Alluvium and colluvium**
 - Ql Gravel, pediment, and fan deposits
 - Qls Landslide deposits
 - Qs Dune sand and loess
 - Ql Playa lake and other lacustrine deposits
 - Qu Undivided surficial deposits
 - Qi Alkalic extrusive and intrusive igneous rocks
 - Qlg Terrace gravel
- TERTIARY SEDIMENTARY AND IGNEOUS ROCKS**
- Tm Miocene rocks
 - Tb Bishop Conglomerate
 - Tw White River Formation
 - Tip Ice Point Conglomerate
 - Twa Washakie Formation

- EXPLANATION**
- Tb **Bridger Formation**
 - Tcg Crooks Gap Conglomerate*
 - Green River Formation
 - Tgl **Lansey Member**
 - Tgpe Wilkins Peak Member
 - Tgpe Wilkins Peak Member and Tipton Shale Member or Tongue
 - Tgl Tipton Shale Member or Tongue
 - Tglu Luman Tongue
 - Wasatch Formation
 - Twc Cathedral Bluffs Tongue
 - Twn Niland Tongue
 - Twm Main body
 - Tbw Transitional unit between Battle Spring Formation and Wasatch Formation
 - Tb Battle Spring Formation
 - Tfu Fort Union Formation

- MESOZOIC SEDIMENTARY ROCKS**
- Kl Lance Formation
 - Klf Fox Hills Sandstone and Lewis Shale
 - Kle Lewis Shale
 - Mesaverde Group
 - Km Mesaverde Group undivided
 - Ka Almond Formation
 - Ke Ericson Sandstone
 - Kr Rock Springs Formation
 - Kbl Blair Formation
 - Kc Cody Shale
 - Kba Baxter Shale
- WATER AREAS**
- CONTACT**
- FAULT—Dotted where concealed. Bar and ball on downthrown side
 - THRUST FAULT (CONCEALED)—Sawtooth on upper plate. Thrust fault approximately located on the basis of seismic data and drilling

*The areal extent of the Crooks Gap Conglomerate in Sweetwater County is small and not shown on the stratigraphic chart.

PLATE 1A. BEDROCK GEOLOGY

Appendix D. Wetland Resources



US Army Corps of Engineers

Irrigation Exemption Summary

Sacramento District
1325 J Street
Sacramento, CA 95814-2922

FARM OR STOCK POND OR IRRIGATION DITCH CONSTRUCTION OR MAINTENANCE

Pursuant to Section 404 of the Clean Water Act (33 USC 1344) and Federal Regulations (33 CFR 323.4(a)(3)), certain discharges for the construction or maintenance of farm or stock ponds or irrigation ditches have been exempted from requiring a Section 404 permit. Included in the exemption are the construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance (but not the construction) of drainage ditches. Discharges associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption.

A Section 404 permit is required if either of the following occurs:

- (1) Any discharge of dredged or fill material resulting from the above activities which contains any toxic pollutant listed under Section 307 of the Clean Water Act shall be subject to any applicable toxic effluent standard or prohibition, and shall require a permit.
- (2) Any discharge of dredged or fill material into waters of the United States incidental to the above activities must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration. For example, a permit will be required for the conversion of a wetland from silvicultural to agricultural use when there is a discharge of dredged or fill material into waters of the United States in conjunction with construction of dikes, drainage ditches, or other works or structures used to effect such conversion. A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States.

If the proposed discharge satisfies all of the above restrictions, it is automatically exempted and no further permit action from the Corps of Engineers is required. If any of the restrictions of this exemption will not be complied with, a permit is required and should be requested using ENG Form 4345 (Application for a Department of the Army permit). A nationwide permit authorized by the Clean Water Act may be available for the proposed work. State or local approval of the work may also be required.

For general information on the Corps' Regulatory Program please check our web site at www.spk.army.mil/regulatory. For additional information or for a written determination regarding a specific project, please contact the Corps at the following addresses:

Sacramento Main Office -1325 J Street, Room 1480, Sacramento, CA 95814	(916) 557-5250
Redding Field Office -152 Hartnell, Redding, CA 96002	(530) 223-9534
Reno Office -300 Booth Street, Room 2103, Reno, NV 89509	(775) 784-5304
Intermountain Region Main Office -533 West 2600 South, Suite 150, Bountiful, UT 84010	(801) 295-8380
Colorado/Gunnison Basin Office -402 Rood Ave., Room 142, Grand Junction, CO 81501	(970) 243-1199
Durango Office -278 Sawyer Dr., Unit #1, Durango, CO 81301	(970) 375-9506
Frisco Office -301 W Main, Suite 202, P.O. Box 607, Frisco, CO 80443	(970) 668-9676
St. George Office -321 North Mall Drive, Suite L-101, St. George, UT 84790	(435) 986-3979



U.S. Fish and Wildlife Service

National Wetlands Inventory

EVIDD Farson Laterals NWI Map



December 28, 2016

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Forested/Shrub Wetland |  | Other |
|  | Estuarine and Marine Wetland |  | Freshwater Pond |  | Riverine |
|  | Freshwater Emergent Wetland |  | Lake | | |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix E. Habitat Replacement Plan

Addendum to the Habitat Replacement Plan for the Eden Valley Irrigation and Drainage District (EVIDD) Salinity Improvement Projects (SWEETWATER COUNTY, WYOMING)

Overview

In 2011, the Eden Valley Irrigation and Drainage District (EVIDD) established a 322-acre habitat replacement site (HRS) along the Big Sandy River located in Sections 26 and 35, Township 26 North, and Range 106 West, Sweetwater County, Wyoming. The enclosed Vicinity Map Exhibit (**Attachment 1**) illustrates the location of the EVIDD's HRS. EVIDD is actively working with the Bureau of Reclamation (BOR) on the Farson Phase II Project, which focuses on piping the Farson 2 (F2) and Farson 5 (F5) laterals. This project is funded by the BOR's Salinity Control Program and requires the installation of habitat replacement measures. Observations from a pre-construction site reconnaissance visit of the Farson Phase II laterals, conducted on September 14, 2016, documented habitat impacts that correlated primarily to the loss of approximately 150 cottonwood trees (*Populus sargentii*). EVIDD's plan to offset the woody vegetation and habitat losses tied to the Farson Phase II Project centers on increasing the native vegetation diversity, overall health, and stratification at the HRS. This Addendum offers an approach to meet the habitat replacement requirements linked to the Farson Phase II project by installing prescribed enhancements at the established HRS. Moreover, this Addendum outlines a strategy that would enable EVIDD to complete additional enhancements, through a phased approach, geared toward generating additional increases of total habitat value (THV) at the HRS. The subsequent sections of this memo are organized as follows:

1. Overall Habitat Enhancement Strategy;
2. Farson Phase II Project Specific Habitat Enhancements;
3. Farson Phase II Project Applicability; and,
4. Future HRS Buildout Strategy.

Overall Habitat Enhancement Strategy

The EVIDD's plan to offset habitat replacement associated with Farson Phase II Project focuses on two major goals: (1) maintaining a 1:1 ratio of tree removal to tree replacement; and, (2) maintaining a 1:1 ratio with regard to overall THV units. The existing HRS has been divided into 4 quadrants in an attempt to departmentalize current and future maintenance and monitoring efforts (see Project Summary Exhibit; **Attachment 2**). New cottonwood plantings are prescribed to be installed at a consistent rate of one, nursery-sized planting per every 144 square feet. The new plantings would be installed within existing exclusionary panels and newly fenced planting areas to provide adequate protection from browsing/grazing livestock and wildlife. Exclusionary panels consist of wire mesh (cattle) panels stretched between 7' T-posts spaced 8' apart (see Typical Exclusionary Fence Design; **Attachment 3**). Similar to the exclusionary

panels, the fenced planting areas would also consist of 7' T-posts, however instead of wire mesh panels, the fencing would utilize a 4-strand combination of barbed (middle portions) and smooth wire (top and bottom rungs). Shallow wells and solar pumps would be installed near the planting areas; and, temporary above-ground irrigation lines would run from each pump to the planting areas to provide a dedicated water source (see Solar Irrigation Pump Station Details; **Attachment 4**). These enhancement measures would be utilized for the Farson Phase II Project, and, as discussed in later sections, could also be utilized in the future, when more THV units are required for future Salinity Projects.

Farson Phase II Project Specific Habitat Enhancements

For the Farson Phase II Project, the specific habitat replacement needs, or THV required, would be established based on the BOR's Habitat Evaluation Criteria. The Farson Phase II Project would result in a net loss of 150 cottonwood trees, rendering replanting that same number of trees necessary to meet the objective of a 1:1 tree replacement ratio. The Farson Phase II Project would also, as shown on the THV scoring sheet (see **Attachment 5**), result in the loss of 1.06 THV units, meaning that a net gain of at least 1.06 THV units is necessary in order to meet the requirement of a 1:1 THV reestablishment ratio.

To accomplish both the tree replacement and THV objective for the Farson Phase II Project, 150 new cottonwood plantings, three shallow wells, three solar pumps, and above-ground, temporary irrigation lines would be installed at the designated planting areas in the fall of 2018. One hundred of these new cottonwood plantings would be placed within the 20 existing exclusionary panels (16' by 45' = 720 square feet). In Quadrant 2, the northerly, established cottonwood stand would be fenced within a 5,000 square foot rectangular area encompassing 100' (parallel to the river flow) by 50' (perpendicular to the river flow) (see **Attachment 2**). Assuming that approximately 1/3rd of the fenced area already contains established cottonwood trees, an additional 22 new cottonwood plantings would be installed over approximately 3,200 square feet within the new fenced area. Also in Quadrant 2, the southern established cottonwood would be fenced within a 24' by 24' area, and would be accompanied by three new cottonwood plantings. Additionally, a similar fenced area would be established in Quadrant 4, and would occupy a 60' by 60' area (3,600 square feet). Keeping consistent with aforementioned planting spacing and dispersal rate, 25 cottonwoods would be installed in this new planting area in Quadrant 4. The three solar pumps and temporary irrigation lines would lie adjacent to these aforementioned planting areas, and would be left in place for three to four years. After the three to four year period expires, the irrigation lines may be relocated or redirected to new locations within the HRS (see **Attachment 2**). Solar pump details and installation instructions are illustrated on **Attachment 4**. It should be noted that the cottonwood plantings shall be obtained from a nursery stock.

Maintenance and monitoring across the HRS, and specifically within prescribed planting areas, would be similar to the HRP's original strategy targeting an 80 percent success rate. Once this Addendum has been approved by the appropriate regulatory agencies, any newly installed enhancements at the HRS would require the maintenance and monitoring to be implemented

by the EVIDD for a minimum of a five-year period following the implementation of the enhancements.

In order to determine the anticipated THV for the existing exclusionary panels and new planting areas, the same habitat quality scoring criteria maintained in the original HRP along with the calculated scoring and values illustrated in Table 4 would be carried forward. As it currently stands, the baseline Habitat Quality Score (HQS) for the areas where the plantings would be installed is 3.1. After the installation of the new cottonwood plantings, the HQS is anticipated to increase by 2.4 points. The formula utilized in determining THV = Area (in acres) X Net Change in HQS. Overall, the habitat replacement for the Farson Phase II Project would occur over an approximate area of 21,600 square feet (150 trees at 1 tree per 144 square feet; approximately 0.496 acres). The total replacement plan for the Farson Phase II Project yields a THV of 1.1904 (2.4 X 0.496), or 1.2 when rounded to the nearest tenth.

In summary, 150 cottonwood plantings would be installed at the HRS (within portions of Quadrants 1, 2, and 4), resulting in a 1:1 replacement ratio (trees impacted to trees planted) and a THV reestablishment ratio slightly greater than 1:1 (1.06 THV units lost compared to 1.20 THV units gained).

Farson Phase II Project Applicability

The Farson Phase II Project, as shown on the THV scoring sheet (**Attachment 5**), would result in a loss of 1.06 THV units. The installation of 150 cottonwood plantings and 3 fenced planting areas (see Project Summary Exhibit; **Attachment 2**) would, as discussed earlier, produce an increase of 1.20 THV units and meet the objective of maintaining a minimum of a 1:1 THV ratio. With the successful installation of 150 new cottonwood plantings within the existing exclusionary panels and new fenced planting areas, the HRS would gain an increase in species diversity, stratification, and overall health; and, the EVIDD Salinity Control Program habitat replacement requirements would be fulfilled for the Farson Phase II Project.

Future Build-Out Strategy

Consistent with the Farson Phase II Project related HRS improvements, this Addendum presents a future build-out strategy for the HRS. The total amount of viable riparian linear footage at the HRS, combining both the eastern and western banks, is approximately 21,060 linear feet. As future THV credits are required for subsequent BOR Salinity funded projects, new 30' by 58' fencing areas (1,740 square feet; 0.04 acres) can be added along the eastern and western banks of the Big Sandy River. Allowing for one new future exclusionary panel or fenced area per 120 linear feet of river channel (i.e. allowing for ample/conservative spacing and the ability to work around any shoreline obstructions), the total number of panel locations available over all four quadrants is estimated at 175. When combined with the fact that each panel equates to an increase of 0.1 THV (2.4 X 0.04 acres), this Addendum projects an additional 17.5 THV units at complete buildout.

Conclusion

EVIDD's Farson Phase II Project requires habitat replacement measures consistent with the BOR's Salinity Control Program. As outlined in this Addendum, the installation of 150 new cottonwoods throughout the HRS would offset the impacts caused by piping the F2 and F5 laterals. The specific enhancement elements associated with the Farson Phase II Project described in this memo yield a 1:1 replacement replanting ratio (150 cottonwoods lost to 150 new cottonwoods planted), and satisfy the required 1:1 reestablishment THV ratio (1.06 THV lost to 1.20 THV gained).

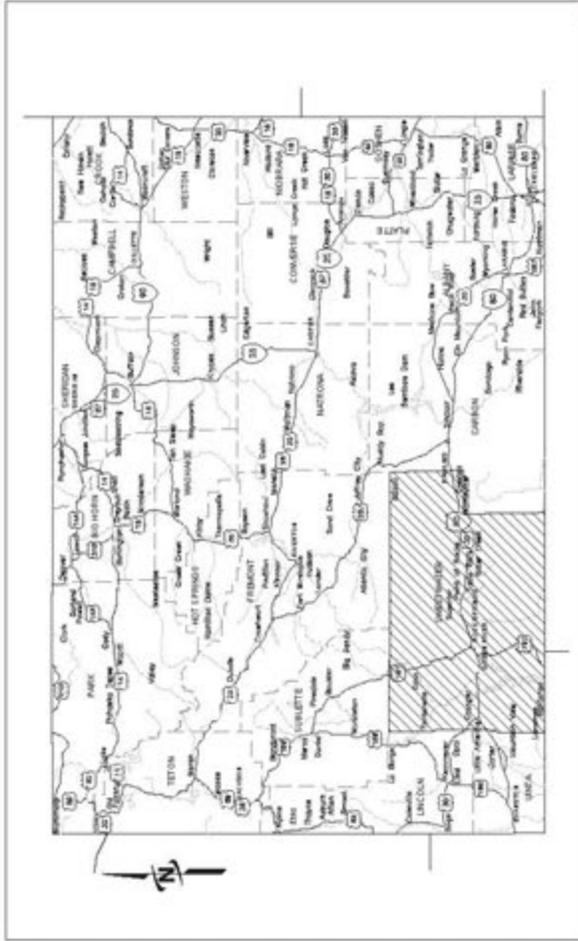
When broadening the enhancement measures presented in this Addendum, specifically the prescribed habitat enhancement for the Farson Phase II Project and the future build-out approach, it is evident that this habitat replacement plan will yield beneficial effects to the HRS for many years to come. Please do not hesitate to contact me with any questions or concerns regarding this Addendum. I can be reached at (509) 458-3727 or via email at vbarthels@jub.com. Lastly, it should be noted that the final authority regarding the HRS enhancements rests with the appropriate regulatory agencies.

Sincerely,

Vincent Barthels, Biologist
J-U-B ENGINEERS, Inc.

Attachments

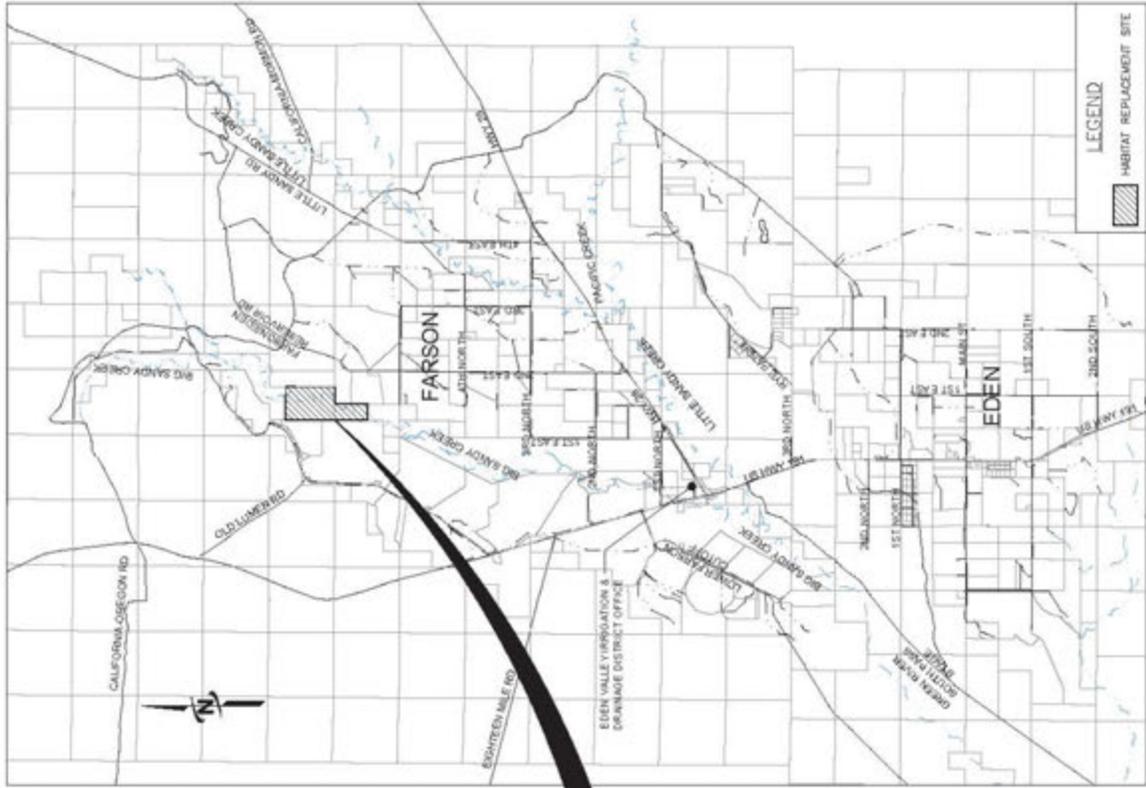
1. Vicinity Map
2. Project Summary Exhibit
3. Panel Exhibit
4. Solar Pump Detail
5. THV Scoring Sheet for F2/F5



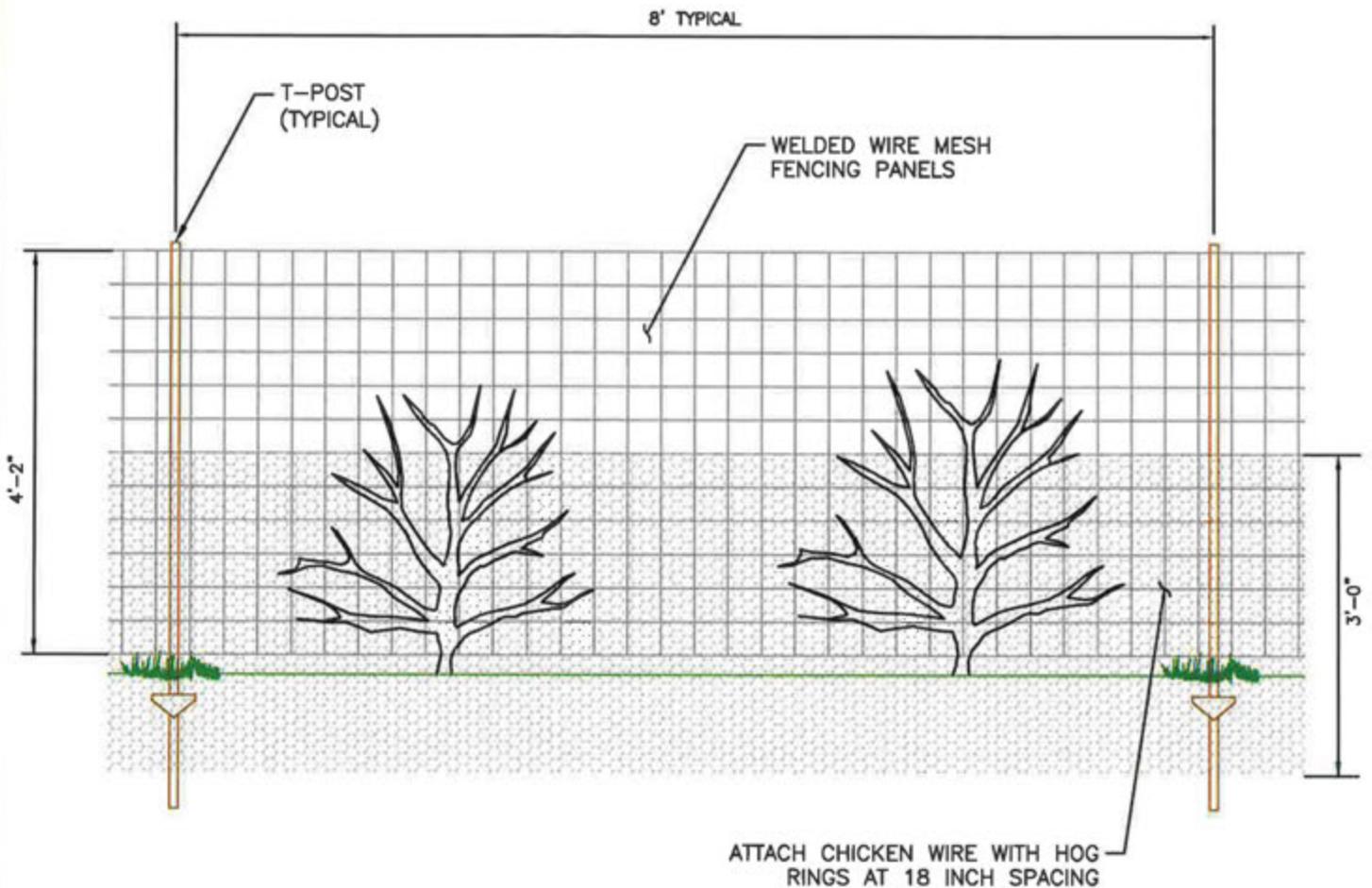
HABITAT REPLACEMENT SITE



SWEETWATER COUNTY



VICINITY MAP



NOTE:

TYPICAL FENCE DESIGN YIELDS PANELS WITH 3-6mm WIRE DIAMETER, 50-80mm x 50-80mm MESH, AND A 3 FOOT SMALL MAMMAL EXCLUSION (I.E. CHICKEN WIRE) BURIED 12 INCHES BELOW GRADE. TYPICAL WIRE MESH PANEL SIZE IS 50" BY 16'.

Basinwide Salinity Control Program Habitat Quality Score Sheet

Seg. ID	Veg. Diversity	Stratification	Native vs. Non-native	Noxious Weeds	Veg. Health	Disease Present	Interspersion of Open Water with Vegetation	Connectivity	Uniqueness or Abundance	Water Supply	Alteration	Total	HQS	Habitat Acreage	THV
1	No habitat loss														
2	No habitat loss														
3	3	5	4	8	10		1	3	4	4	1	43	4.3	0.02	0.086
4	5	9	4	8	10		1	3	6	4	1	51	5.1	0.1	0.51
5	No habitat loss														
6	2	5	8	8	9		1	3	6	4	1	47	4.7	0.01	0.047
7	2	5	6	8	9		1	3	6	4	1	45	4.5	0.04	0.18
8	No habitat loss														
9	2	5	6	8	4		1	3	4	4	1	38	3.8	0.04	0.152
10	No habitat loss														
11	4	2	4	8	10		1	3	4	4	1	41	4.1	0.02	0.082
12	No habitat loss														

Project: PRO-EA-16-014 Eden Valley Irrigation District & Drainage Farson F-2 & F-5 Lateral Salinity Piping Project

Assessment Conducted By: Dave Snyder (USBR) & Vince Barthels (JUB Engineers)

Date: 14 SEP 2016

Overall THV: 1.06

Notes:

Appendix F. Biological Resources

No Effects Biological Evaluation for the
Eden Valley Irrigation and Drainage District
Farson Laterals F2 & F5
Salinity Control Project

Sweetwater County, Wyoming

Prepared for:

United States Department of the Interior
Bureau of Reclamation
Upper Colorado Region
Provo Area Office
Provo, Utah

Prepared by:

J-U-B Engineering, Inc.
2875 South Decker Dr. Ste. 575
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January 2017

Table of Contents

Introduction	3
Purpose and Need	3
Proposed Action Area	3
Proposed Action Description	4
<i>Existing System</i>	4
<i>Proposed Action</i>	4
<i>Construction Schedule</i>	4
<i>Best Management Practices</i>	4
ESA Consultation	4
Effects of the Proposed Project on Federally Listed Species and Critical Habitat	5
<i>ESA-Listed Species</i>	5
Black-Footed Ferret.....	5
Yellow-Billed Cuckoo.....	6
Bonytail Chub.....	6
Colorado Pikeminnow.....	7
Humpback Chub.....	7
Razorback Sucker.....	7
Ute Ladies'-tresses.....	8
Impact Avoidance and Minimization Measures	8
Conclusions and Determination of Effect	8
References	10
Appendix A: Project Alignment Exhibit	11
Appendix B: USFWS IPaC Report	12

Introduction

This biological evaluation (BE) has been prepared for the U.S. Bureau of Reclamation (Reclamation) for the proposed Eden Valley Irrigation and Drainage District (EVIDD) Farson Laterals Salinity Control Project as required by Section 7(c) of the Endangered Species Act (ESA). The proposed project is located in Township 26N, Range 106W, and Sections 1, 2, and 11, as well as Township 25N, Range 105W, Section 11 within Sweetwater County, Wyoming.

This report will serve as the no effects analysis of potential impacts associated with the proposed project to species listed as endangered, threatened, proposed and candidate, as well as potential impacts to designated and proposed critical habitat protected under the ESA.

Purpose and Need

The purpose of the proposed project action is to replace the existing unlined earthen Farson Laterals (F2, F2B, F2D and F5) with high-density polyethylene pipe (HDPE) in order to reduce maintenance needs and improve irrigation system efficiency by reducing water loss due to seepage, evapotranspiration and operational losses. The larger need for the proposed project is to reduce salinity loading to the Upper Colorado River Basin, consistent with the goal of the Colorado River Basin Salinity Control Program. The project improvements are expected to reduce annual salinity contributions to the Colorado River Basin by 1,619 tons (Jacobson, 2015).

Proposed Action Area

The proposed project is located approximately 40 miles north of Rock Springs near the towns of Farson and Eden, in Sweetwater County, Wyoming. The proposed project area is situated on the northern side of the EVIDD service area, approximately 6 miles north of Farson, Wyoming. (Appendix A: Proposed Project Alignment). The elevation of the project area averages 6,594 feet above sea level. The project area extends along the corridors of SR-106/Farson 2nd East Road, Farson 4th North Road and Farson 5th North Road, encompassing the extent of the Farson F2, F2B, F2D and F5 Laterals. The surrounding landscape is primarily agricultural, either open range land or planted/cultivated crop lands.

This project is part of a larger salinity control effort being undertaken by EVIDD. The existing Eden/Farson Canal system comprises approximately 25 miles of laterals that provide irrigation water to approximately 5,469 acres of irrigated farm lands. Approximately 5.1 miles of the entire irrigation system is comprised of the Farson Laterals, which deliver irrigation water to 84 farms, averaging 200 acres per farm. The major irrigated crops in the area include alfalfa, grass hay, barley, oats, and field peas. The EVIDD system serves 84 farms, averaging 200 acres per farm.

Ecoregions of Wyoming describe the proposed action area as rolling sagebrush steppe (Chapman, 2004). The undeveloped landscape is characterized by sagebrush, shadescale, and mixed short bunch grasses. Soils throughout the project area consist of sandy, gravelly textured aridisols being remnants of alluvial fans of material derived from igneous, metamorphic and sedimentary rock. There are no soils within the proposed project area classified as prime farmland (NRCS, 2017). The proposed project area contains no suitable fish bearing habitat.

Habitat along the ditch is dominated by managed agricultural fields and pastures, and residential or agricultural structures. Along the ditches, there are narrow corridors of cottonwoods, native shrubs and

grasses, as well as a mix of invasive species, including cheatgrass (*Bromus tectorum*). Sagebrush and short bunch grasses line most of the lateral with very small intermittent sections of emergent wetland vegetation, which persist only because of the moisture provided by the irrigation water when present.

Proposed Action Description

Existing System

EVIDD owns and operates the 5.1 miles of unlined, earthen canal along the Farson Laterals—F-2, F-2B, F-2D and F-5. The Farson Laterals extend along the corridors of SR-106/Farson 2nd East Road, Farson 4th North Road and Farson 5th North Road. The laterals are fed from the Big Sandy and Eden Reservoirs.

Proposed Action

If approved, Reclamation would authorize the use of Federal funds under the Colorado River Basin Salinity Control Program, to allow EVIDD to pipe approximately 5.1 miles of unlined, open canal along the Farson F-2 and F-5 Laterals in the EVIDD irrigation system with 4”-63” HDPE pipe with larger pipes being used at the start of the canal system and reducing in size toward the terminus of the lines (Appendix A: Proposed Project Alignment). Piping of the Farson Laterals includes the installation of approximately 27,000 linear of fused joint, solid wall HDPE pipe. This work includes demolition of all existing canal structures, excavation, backfilling, and surface restoration to install the pipe. Also included in the project is installation of all standpipes, air valve assemblies, drains, valves and other incidental items associated with piping the existing laterals.

Construction Schedule

The proposed project would be anticipated to begin in the fall 2017, pending Reclamation approval. Construction activities would take place outside of the typical irrigation season, with construction occurring between October 1st through April 1st. The project completion would be anticipated by April 2018.

Best Management Practices

Best Management Practices (BMPs) would be in place to minimize direct, short-term construction impacts. Planned BMPs included herein are intended to restore vegetative structure and minimize erosion. These measures include re-planting barren locations (post-construction) with native vegetation. BMPs are mandatory and would become part of the project design. They would include, but are not limited to the following:

1. Temporary erosion sediment control (TESC) structures would be in effect during construction.
2. Excavation, staging areas and the new pipeline installation would only occur within staked limits of the project action area.
3. All disturbed upland areas, which are not currently cultivated, would be re-seeded upon project completion with a dry land seed mix.

ESA Consultation

A site visit was conducted on September 15, 2016 by Vince Barthels, Qualified Biologist with J-U-B Engineers, Inc. in order to review the existing conditions within the proposed project area. An official species list was obtained from the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) system to identify ESA-listed species that could potentially occur

within the proposed action area. According to the IPaC report (Appendix B: Federal & State Agency Correspondence), there are seven federally listed species that have potential to exist within the project action area. Table 1 summarizes the species identified by USFWS, their record of occurrence within the proposed action area, and the determination of effect based on habitat conditions and records of species presence.

Table 1. Summary of ESA-Listed Species

Common Name	Scientific Name	Occurrence ¹	Effects
Endangered			
Bonytail chub	<i>Gila elegans</i>	None	No Effect
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	None	No Effect
Humpback chub	<i>Gila cypha</i>	None	No Effect
Razorback sucker	<i>Xyrauchen texanus</i>	None	No Effect
Threatened			
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	None	No Effect
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	None	No Effect
Endangered / (Non-essential Experimental Population near Action Area)			
Black-footed ferret	<i>Mustela nigripes</i>	None	No Effect

¹Occurrence = Likelihood of the presence of habitat or known species records for the project action area, where: None = no habitat or known records within or adjacent to the project action area; Low = some potential habitat within or adjacent to project action area, or known presence records very near but not in the project action area; High = habitat and/or known presence records in project action area.

Effects of the Proposed Project on Federally Listed Species and Critical Habitat

ESA-Listed Species

The following section details the species identified by the USFWS IPaC Report as listed under the ESA with the potential to occur within the proposed action area.

Black-Footed Ferret

The black-footed ferret (BFF) (*Mustela nigripes*) is a medium-sized member of the weasel family (a mustelid), ranging in size from 1.4 to 2.5 pounds and 19 to 24 inches in total length. A slender, wiry, mustelid with black feet, a black face mask, and a black-tipped tail. The BFF's fur is short, sleek and beige-buff in color, being lighter in color on the belly, and nearly white on the forehead, muzzle and throat. With short legs, large front paws and long claws, the BFF is adept at digging, even though it depends exclusively on prairie dog burrows for shelter (USFWS, 2014)

The BFF's large ears and eyes suggest it has acute eyesight, however its sense of smell may be its keenest sense for hunting prey underground in the dark. Black-footed ferrets are obligate predators to prairie dogs, and they require at least a few thousand acres of established prairie dog colonies to provide adequate habitat and prey for their survival. Prairie dogs comprise more than 90% of the BFF's diet. Due to the steep decline of prairie dog populations as a result of extermination, agricultural development, industry and residential development, black-footed ferret populations have also declined

and they were ESA-listed as endangered in 1967, and despite discovery of a relic population in Wyoming and a successful recovery program, the BFF remains an endangered species protected under the ESA.

Within the proposed project area, the USFWS IPaC Report identified that an Experimental, Non-essential BFF population exists in the vicinity of the proposed project, however ESA consultation is not required because the proposed project action area does fall on lands administered by the U.S. Fish and Wildlife Service or the National Park Service (NPS). Additionally, during the site visit conducted on September 15, 2016 by a qualified biologist, there were no prairie dog burrows noted within the proposed action area, which is also dominated by agricultural development and man-made, open irrigation laterals. Due to the lack of potential habitat and prey, and the fact that the proposed project does not fall on or adjacent to lands administered by USFWS or NPS, it is determined that the proposed project would have no effect on the black-footed ferret and would not adversely modify any potential habitat.

Yellow-Billed Cuckoo

The yellow-billed cuckoo (*Coccyzus americanus*) is listed as threatened under the ESA. *Coccyzus americanus occidentalis*, the subspecies relevant to the proposed project area, is distinguished as a distinct population segment by USFWS and is known as the western yellow-billed cuckoo, whose migration patterns are west of the Continental Divide. It is a neotropical migrant, which winters in South America. Breeding often coincides with the appearance of massive numbers of cicadas, caterpillars, or other large insects (Erlich, 1992). As the name suggests, this avian species has a stout, slightly down-curved and yellow bill. Its plumage is loose and grayish-brown, and white below with reddish primary feathers that will flash in flight. It has a slender, elongated body with a long-tailed appearance and a yellow ring of colored, bare skin around the eye. The tail feathers are bold banded with white and black below. A medium sized bird at roughly 12 inches in length and weighing approximately 60 grams (USFWS, 2014).

Yellow-billed cuckoos are considered a riparian obligate and typically requires large tracts of cottonwood/willow habitats with dense sub-canopies (below 33 feet). The yellow-billed cuckoo rarely nests in sites that are less than 50 acres. Low-gradient rivers and streams in open riverine valleys with wide floodplain conditions is the cuckoo's preferred breeding and nesting habitat. Yellow-billed cuckoos will not use narrow, steep-walled canyons, but prefers lower elevation broad floodplains (USFWS, 2014). Riparian and large-tract woodland habitat required by the yellow-billed cuckoo is not present within the project action area. With the lack of suitable habitat, this species would not be expected in the proposed action area, and therefore a no effects determination is warranted for the yellow-billed cuckoo and would not adversely modify any potential habitat.

Bonytail Chub

The bonytail chub is a minnow that is originally native to the Colorado River system. The near extinction of the bonytail can be linked back to flow regulation or alteration, habitat loss, as well as competition and predation by exotic, introduced fishes. Bonytail are opportunistic feeders; their prey includes: insects, zooplankton, algae, and higher plant matter. Bonytails spawn in the spring and summer over gravel substrate. Currently, many bonytail are raised in fish hatcheries and released into the wild when they are large enough to survive in their natural environment. Bonytail prefer stream habitat that consists of eddies, pools, and backwaters near swift current in large rivers (UDWR, 2017).

The Farson laterals are unstructured, earthen canals, which contain no viable fish habitat required by the bonytail chub, such as eddies, pools, and backwaters of swift current streams. Due to the lack of viable habitat, the bonytail chub would not be expected within the proposed action area, therefore the proposed project would have no effect on the species, nor would it adversely impact potential habitat for the species.

Colorado Pikeminnow

The Colorado pikeminnow is a minnow that is originally native to the Colorado River system. Currently, their range is limited to the upper Colorado River system. The near extinction of the Colorado pikeminnow can be linked to flow regulation or alterations (e.g. the installation of dams), habitat loss, as well as competition and predation by introduced, non-native fishes.

Colorado pikeminnows are mainly piscivorous, meaning their primary subsistence is other fish. Young pikeminnows also eat insects and other invertebrates. They spawn in the spring and summer over gravel or smaller cobble substrate situated in riffle habitat. Adult Colorado pikeminnows prefer medium to large rivers and the young prefer slow-moving backwaters. Historical accounts of six-foot-long Colorado pikeminnows make this species the largest minnow in North America (UDWR, 2017).

The Farson laterals are unstructured, earthen canals, which contain no viable fish habitat for the Colorado pikeminnow. The Farson Laterals are not similar to large rivers and do not contain riffle habitat or cobble substrate for spawning. Due to the lack of viable fish habitat, the proposed project would have no effect on the Colorado Pikeminnow, nor would it adversely impact any potential habitat for the species.

Humpback Chub

The humpback chub is a federally listed endangered minnow that is originally native to the upper Colorado River system. Humpback chub originally thrived in the fast, deep, white-water areas of the Colorado River and its major tributaries. Man-induced flow alterations (i.e. dams), have changed the turbidity, volume, current speed, and temperature of the water in those rivers and has contributed to the significant population declines. Humpback chub mainly eat insects and other invertebrates, and occasionally algae and fish. The species spawns during the spring and summer in shallow, backwater areas with cobble substrate. Younger chub reside in shallower, turbid habitats until they are large enough to move into whitewater areas (UDWR, 2017).

The Farson laterals are unstructured, earthen canals, which contain no viable fish habitat for the humpback chub. The Farson laterals are not similar to large rivers and do not contain riffle habitat or cobble substrate for spawning. Due to the lack of viable fish habitat, the proposed project would have no effect on the humpback chub, nor would it adversely impact any potential habitat for the species.

Razorback Sucker

The razorback sucker is federally listed endangered sucker fish that is originally native to the Colorado River system. The near extinction of the razorback sucker can be linked to flow regulation or alterations (e.g. the installation of dams), habitat loss, as well as competition and predation by introduced, non-native fishes. Razorback suckers mainly eat algae, zooplankton, and other aquatic invertebrates. They spawn between February and June. Adult razorback suckers prefer slow backwater habitats. The largest current concentration of razorback suckers can be found in Lake Mohave (an impounded waterbody), located along the Arizona-Nevada border (UDWR, 2017).

The Farson laterals are unstructured, earthen canals, which contain no viable fish habitat for the razorback sucker. The Farson Laterals are not similar to large rivers and do not contain backwater habitat or the necessary aquatic plant and invertebrate diversity to sustain the razorback sucker. Due to the lack of viable fish habitat, the proposed project would have no effect on the razorback sucker, nor would it adversely impact any potential habitat for the species.

Ute Ladies'-tresses

Ute ladies'-tresses is a member of the orchid family. It was first described in 1984 and was federally listed as "threatened" by the USFWS under the ESA in January, 1992 (USFWS, Ute ladies'-tresses (*Spiranthes diluvialis*) Draft Recovery Plan, 1995). Populations have been found in Utah, Colorado, Wyoming, Montana, Nevada, Idaho, and Washington. The elevation ranges in which populations have been found vary from 750 to 7,000 feet, with most populations above 4,000 feet. It is found in wetlands and riparian areas, including spring habitats, mesic meadows, river meanders and floodplains. They require open habitats, and populations decline if trees and shrubs invade the area. They are not tolerant of permanent standing water, and do not compete well with aggressive species such as reed canary grass (*Phalaris arundinacea*). The survey time for the species, as identified by the USFWS, is mid-August through mid-September.

Habitat conditions in the project area associated with a man-made lateral and canal are not conducive for Ute ladies'-tresses populations, due to the lack of hydric, wetland soils and robust riparian areas, as well as the density of sagebrush shrubland, short bunch grasses, and invasive species, such as cheatgrass (*Bromus tectorum*). According to the Wyoming Natural Diversity Database-Rare Plant and Animal Occurrence Mapping tool (WYNDD, 2016), there are no records of occurrence for the species within six miles of the proposed action area. With the lack of suitable habitat for Ute ladies'-tresses, and a lack of records of occurrence in the project action area, the proposed project would have no effect on the species.

Impact Avoidance and Minimization Measures

BMPs would be in place to avoid and minimize impacts to the surrounding human and natural environments. As no suitable habitat for the aforementioned species currently exists within the proposed project area, no further impact avoidance measures would be necessary.

Conclusions and Determination of Effect

This analysis was prepared to summarize the potential effects of the proposed project on listed species protected under the ESA. Based on the scope of the project coupled with the existing ongoing agricultural practices within the project action area, it is determined that the proposed project would have no direct and/or indirect effect on any of the seven ESA-listed species identified by the USFWS and discussed in this analysis.

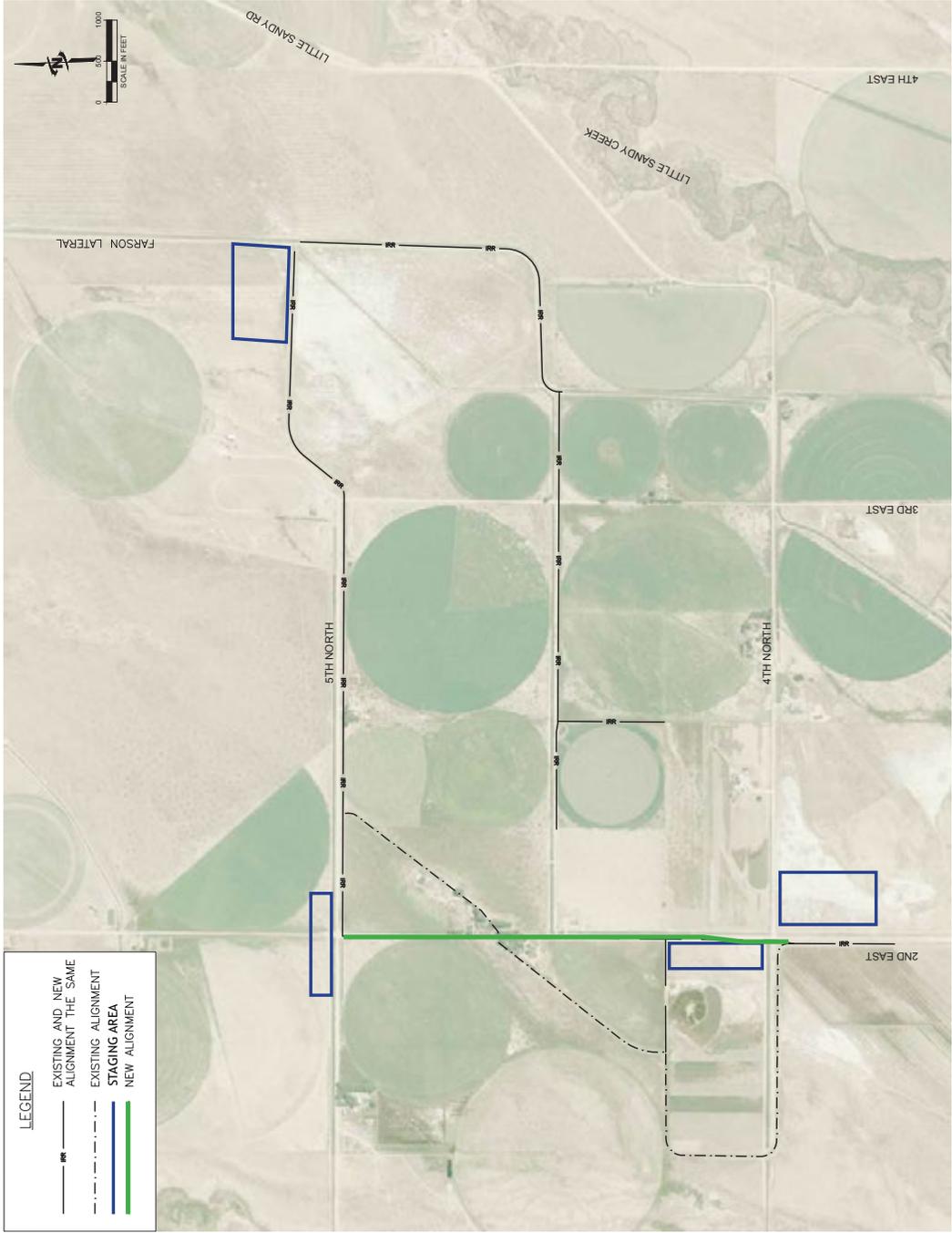
To ensure future concurrence with ESA, J-U-B will update this Biological Evaluation or No Effects Determination if any changes to the proposed project are anticipated. In the event, there are status changes for species, new species or critical habitat listings, or significant alterations to the proposed scope of work, the proposed project and its effects would be reevaluated. It is our understanding that this letter satisfies the project proponent's responsibilities under section 7 (c) of the ESA at this time. It should be noted that final authority rests with the appropriate regulatory agency.

Attachments: (1) Project Alignment Exhibit
(2) USFWS IPaC Report dated January 2017

References

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Appendix A: Project Alignment Exhibit



Appendix B: USFWS IPaC Report



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Wyoming Ecological Services Field Office
5353 YELLOWSTONE ROAD, SUITE 308A
CHEYENNE, WY 82009
PHONE: (307)772-2374 FAX: (307)772-2358
URL: www.fws.gov/wyominges/

Consultation Code: 06E13000-2017-SLI-0116

December 28, 2016

Event Code: 06E13000-2017-E-00432

Project Name: EVIDD Salinity Control Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the Environmental Conservation Online System-Information, Planning, and Conservation System (ECOS-IPaC) website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Please feel free to contact us if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. We also encourage you to visit the Wyoming Ecological Services website at http://www.fws.gov/wyominges/Pages/Species/Species_Endangered.html for more information about species occurrence and designated critical habitat.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required

to use their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A biological assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a biological assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a biological assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the biological assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

We also recommend that you consider the following information when assessing impacts to federally listed species, as well as migratory birds, and other trust resources:

Colorado River and Platte River Systems: Consultation under section 7 of the Act is required for projects in Wyoming that may lead to water depletions or have the potential to impact water quality in the Colorado River system or the Platte River system, because these actions may affect threatened and endangered species inhabiting the downstream reaches of these river systems. In general, depletions include evaporative losses and/or consumptive use of surface or groundwater within the affected basin, often characterized as diversions minus return flows. Project elements that could be associated with depletions include, but are not limited to: ponds, lakes, and reservoirs (e.g., for detention, recreation, irrigation, storage, stock watering, municipal storage, and power generation); hydrostatic testing of pipelines; wells; dust abatement; diversion structures; and water treatment facilities.

Species that may be affected in the Colorado River system include the endangered bonytail (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), and razorback sucker (*Xyrauchen texanus*) and their designated critical habitats. Projects in the Platte River system may impact the endangered interior population of the least tern (*Sterna antillarum*), the endangered pallid sturgeon (*Scaphirhynchus albus*), the threatened piping plover (*Charadrius melodus*), the threatened western prairie fringed orchid (*Platanthera praeclara*), as well as the endangered whooping crane (*Grus americana*) and its designated critical habitat. For more information on consultation requirements for the Platte River species, please visit <http://www.fws.gov/platteriver>.

Migratory Birds: The Migratory Bird Treaty Act (16 U.S.C. 703-712), prohibits the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations, and does not require intent to be proven. Except for introduced species and some upland game birds, almost

all birds occurring in the wild in the United States are protected (50 CFR 10.13). Guidance for minimizing impacts to migratory birds for projects that include communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>.

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing. Eagle nests are protected whether they are active or inactive. Removal or destruction of nests, or causing abandonment of a nest could constitute a violation of one or both of the above statutes. Projects affecting eagles may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

If nesting migratory birds are present on or near the project area, timing of activities is an important consideration and should be addressed in project planning. Activities that could lead to the take of migratory birds or eagles, their young, eggs, or nests, should be coordinated with our office prior to project implementation. If nest manipulation (including removal) is proposed for the project, the project proponent should contact the Migratory Bird Office in Denver at 303-236-8171 to see if a permit can be issued for the project. If a permit cannot be issued, the project may need to be modified to protect migratory birds, eagles, their young, eggs, and nests.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Official Species List

Provided by:

Wyoming Ecological Services Field Office
5353 YELLOWSTONE ROAD, SUITE 308A
CHEYENNE, WY 82009
(307) 772-2374
<http://www.fws.gov/wyominges/>

Consultation Code: 06E13000-2017-SLI-0116

Event Code: 06E13000-2017-E-00432

Project Type: WATER SUPPLY / DELIVERY

Project Name: EVIDD Salinity Control Project

Project Description: Piping approximately 5.1 miles of earthen canal within the Eden/Farson irrigation system to reduce water loss due to seepage and operational losses, as well as to reduce the salt loading to the Upper Colorado River Basin.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-109.412841796875 42.162449108310646, -109.41378593444824 42.16257635126408, -109.41344261169434 42.16531201286853, -109.41824913024902 42.165439250064324, -109.4183349609375 42.166202667865356, -109.41344261169434 42.16639352087622, -109.41352844238281 42.17135549706254, -109.41267013549805 42.17154633452751, -109.4073486328125 42.176189868707056, -109.41301345825194 42.176317084023374, -109.41301345825194 42.17727119073867, -109.39335823059082 42.17720758407215, -109.39095497131348 42.17873412641105, -109.38202857971191 42.178861336609216, -109.38159942626953 42.17008323258167, -109.38769340515135 42.16957431962413, -109.38812255859375 42.16931986160998, -109.4029712677002 42.16919263221904, -109.40288543701172 42.16588457823449, -109.40425872802734 42.16582096011639, -109.40408706665039 42.17001961868589, -109.38872337341307 42.1701468464135, -109.38760757446289 42.17065575476483, -109.38254356384277 42.170846594341, -109.38262939453125 42.17803446574672, -109.39061164855957 42.178098071581545, -109.39241409301758 42.17644429908377, -109.40606117248535 42.176253476397186, -109.4124984741211 42.170846594341, -



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

109.412841796875 42.162449108310646)))

Project Counties: Sweetwater, WY



Endangered Species Act Species List

There are a total of 7 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Yellow-Billed Cuckoo (<i>Coccyzus americanus</i>) Population: Western U.S. DPS	Threatened	Proposed	
Fishes			
Bonytail chub (<i>Gila elegans</i>) Population: Wherever found	Endangered	Final designated	
Colorado pikeminnow (<i>Ptychocheilus lucius</i>) Population: Wherever found, except where listed as an experimental population	Endangered	Final designated	
Humpback chub (<i>Gila cypha</i>) Population: Wherever found	Endangered	Final designated	
Razorback sucker (<i>Xyrauchen texanus</i>) Population: Wherever found	Endangered	Final designated	
Flowering Plants			
Ute ladies'-tresses (<i>Spiranthes diluvialis</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Population: Wherever found			
Mammals			
Black-Footed ferret (<i>Mustela nigripes</i>) Population: U.S.A. (WY and specified portions of AZ, CO, MT, SD, and UT, see 17.84(g)(9))	Experimental Population, Non-Essential		Experimental, non-essential population of black-footed ferrets established pursuant to Section 10(j) of the ESA. Section 7 consultation not required except on lands administered by the U.S. Fish and Wildlife Service or the National Park Service.



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Critical habitats that lie within your project area

There are no critical habitats within your project area.



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Appendix B: FWS Migratory Birds

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>
<http://www.fws.gov/birds/policies-and-regulations/laws-legislations/bald-and-golden-eagle-protection-act.php>

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tools at:

<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php>



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Migratory birds that may be affected by your project:

There are 20 birds on your migratory bird list. The list may include birds occurring outside this FWS office jurisdiction.

Species Name	Bird of Conservation Concern (BCC)	Seasonal Occurrence in Project Area
American bittern (<i>Botaurus lentiginosus</i>)	Yes	Breeding
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Yes	Year-round
Black Rosy-Finch (<i>Leucosticte atrata</i>)	Yes	Year-round
Brewer's Sparrow (<i>Spizella breweri</i>)	Yes	Breeding
Burrowing Owl (<i>Athene cunicularia</i>)	Yes	Breeding
Cassin's Finch (<i>Carpodacus cassinii</i>)	Yes	Year-round
Ferruginous hawk (<i>Buteo regalis</i>)	Yes	Breeding
Fox Sparrow (<i>Passerella iliaca</i>)	Yes	Breeding
Golden eagle (<i>Aquila chrysaetos</i>)	Yes	Year-round
Greater sage-grouse (<i>Centrocercus urophasianus</i>)	Yes	Year-round
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	Yes	Breeding
Long-Billed curlew (<i>Numenius americanus</i>)	Yes	Breeding
Mountain plover (<i>Charadrius montanus</i>)	Yes	Breeding
Olive-Sided flycatcher (<i>Contopus cooperi</i>)	Yes	Breeding
Rufous hummingbird (<i>selasphorus rufus</i>)	Yes	Breeding



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Sage Thrasher (<i>Oreoscoptes montanus</i>)	Yes	Breeding
Short-eared Owl (<i>Asio flammeus</i>)	Yes	Year-round
Swainson's hawk (<i>Buteo swainsoni</i>)	Yes	Breeding
Western grebe (<i>aechmophorus occidentalis</i>)	Yes	Breeding
Willow Flycatcher (<i>Empidonax traillii</i>)	Yes	Breeding



United States Department of Interior
Fish and Wildlife Service

Project name: EVIDD Salinity Control Project

Appendix C: NWI Wetlands

Wetlands data for your project area was not available at the time of this species list request.