RECLAMATION
Managing Water in the West

Draft Environmental Assessment Sheep Creek Irrigation Company Antelope and North Laterals Salinity Control Project

PRO-EA-16-007

Upper Colorado Region
Provo Area Office
Provo, Utah

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

September 2016

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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.

Draft Environmental Assessment
Sheep Creek Irrigation Company
Antelope and North Laterals Salinity Control Project

Upper Colorado Region
Provo Area Office
Provo, Utah

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U.S. Department of the Interior
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Chapter 1 Purpose of and Need for Proposed Action

1.1 Introduction

This Environmental Assessment (EA) was prepared to examine the potential environmental impacts of the Antelope and North Laterals Salinity Control Project, proposed by the Sheep Creek Irrigation Company (SCIC) in Daggett County, Utah. If approved the U.S. Bureau of Reclamation (Reclamation) would authorize the use of Federal funds to pipe approximately 3.4 miles of unlined, open canals along the Antelope and North Laterals in the SCIC irrigation system (Figure 1- Project Vicinity Map).

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 is currently used to irrigate 4 million acres of land in the United States and 500,000 acres of land in Mexico.

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 plugs 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 range between 600 and 1,200 mg/L, depending upon the amount of water in the river system. Salinity damages in the United States' portion of the Colorado River Basin are currently approximately $250 million per year, and are estimated to exceed $1.5 billion per year if future increases in salinity are not controlled (Reclamation 2016).

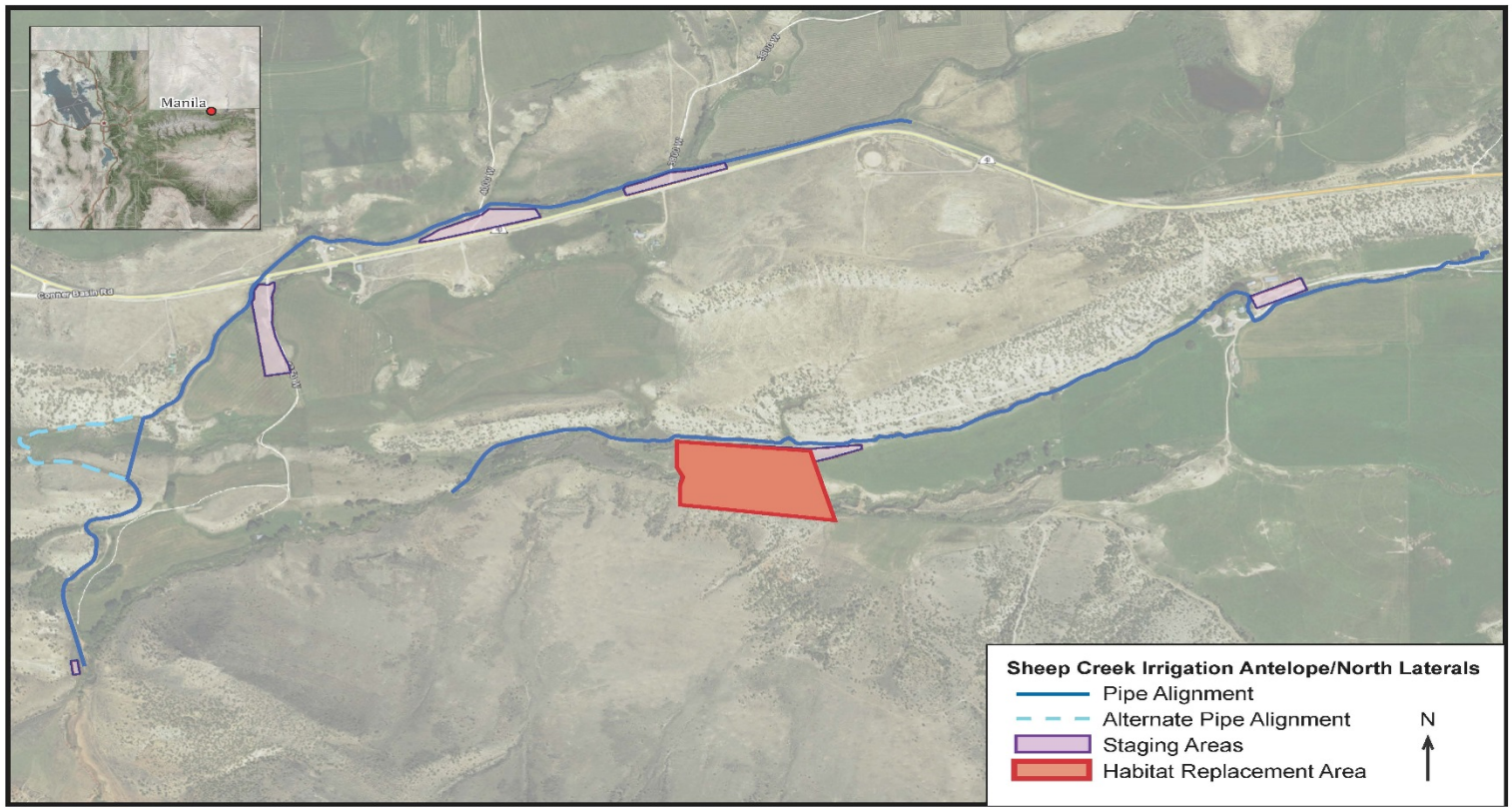


Figure 1 – Project Vicinity Map

1.2.2 The Sheep Creek Irrigation Company

The SCIC, established in 1899, is located on the north slope of the eastern Uinta Mountains in the town of Manila, Utah. The SCIC System consists of 22 miles of mountain canals from Tamarack, Jessen, Daggett and Spirit Lakes to the Long Park Reservoir located within the Ashley National Forest. Constructed in 1979, Long Park Reservoir has a storage capacity of 14,000 acre feet. The SCIC System consists of Sheep Creek Canal and six main canal laterals: the Nebeker Lateral, the North Lateral, the Antelope Lateral, the South Valley Lateral, the Cedar Hollow Lateral, and the "Wash"/Birch Springs System.

Water from the SCIC System irrigates approximately 11,400 acres of agricultural lands with approximately 110 miles of canals and laterals in the valley that deliver water to individual stockholders. The majority of crops grown along the SCIC system are alfalfa, hay, and other pasture grasses. Previously implemented salinity control projects have piped the Cedar Hollow and South Valley laterals. The remainder of the SCIC System is comprised of unlined earthen canals. The canal and lateral seepage in the unlined portion of the SCIC system is estimated to range from 25 percent to 30 percent, approximately 12 – 14 cubic feet per second (cfs) of water.

1.3 Purpose of and Need for Proposed Action

This EA evaluates the potential effects of the Proposed Action in order 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 project, then a Finding of No Significant Impact (FONSI) will be issued by Reclamation. Otherwise, an Environmental Impact Statement (EIS) will be necessary prior to implementation of the Proposed Action.

The purpose of the proposed project improvements is to replace the existing unlined earthen Antelope and North Laterals with pipelines. The proposed 3.4 miles of pipeline are needed to increase the efficiency of the existing system and reduce the water lost to seepage, evapotranspiration, and operational water losses. Moreover, the project improvements are needed to reduce maintenance on the canal and reduce the salinity contributions resulting from the existing Antelope and North Laterals, consistent with the purposes of the Colorado River Basin Salinity Control Program. The project improvements are anticipated to reduce the salinity contributions to the Colorado River Basin by 1,474 tons annually.

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 project 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 project.

Members of the project team including SCIC staff met with property owners located along the proposed project alignment. Coordination with interested agencies was performed throughout the EA process. Chapter 5 of this EA, describes in detail the public involvement 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. SCIC would 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
Utah Division of Water Quality	Utah Pollution Discharge Elimination System (UPDES) Permit for projects that disturb more than one acre of land.
State of Utah Department of Natural Resources, Division of Water Rights (DWRi)	Stream Alteration Permit under Section 404 of the Clean Water Act and Utah statutory criteria of stream alteration described in the Utah Code.
Utah State Historic Preservation Office	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470 USC 470.
United States Fish and Wildlife Service	Consultation pursuant to Section 7 of the Endangered Species Act.
United States Army Corps of Engineers (USACE)	A USACE permit, in compliance with Section 404 of the CWA, would be required prior to the discharge of dredged or fill material into "waters of the United States".

1.6 Related Projects and Documents

1.6.1 SCIC South Valley Lateral Salinity Control Project EA

Reclamation and the SCIC completed an EA in 2014 to evaluate impacts from the piping of the SCIC South Valley Lateral. The project, funded under Reclamation's Salinity Control Program, piped 7.4 miles of open unlined canals resulting in an estimated annual reduction of 3,373 tons of salt in the Upper Colorado River Basin.

1.6.2 SCIC Cedar Hollow Lateral Salinity Control Project EA

In 2014, Reclamation and SCIC completed the SCIC Cedar Hollow Lateral Salinity Control Project EA. This EA evaluated the impacts from the proposed replacement of 5.42 miles of the Cedar Hollow Lateral with a pipeline to reduce the salinity contributions to the Upper Colorado River Basin. This project, located in Sweetwater County, Wyoming, and Daggett County, Utah, reduced the annual salt contribution to the Upper Colorado River Basin by approximately 2,220 tons.

1.6.3 People's Canal Salinity Control Project EA

Reclamation completed the People's Canal Salinity Control Project EA and issued a FONSI in 2010. This EA analyzed impacts from the proposed replacement of 9.1 miles of the People's Canal with a pipeline to reduce the salinity contributions to the Upper Colorado River Basin. This project was located in Sweetwater County, Wyoming, and Daggett County, Utah.

1.6.4 Manila-Washam Project EA

In 2006, the Natural Resources Conservation Service (NRCS) completed an EA and issued a FONSI for the Manila-Washam Project. This EA evaluated on-farm improvements for 11,000 water-rights acres in Daggett County, Utah, and Sweetwater County, Wyoming, to reduce salt loading in the Upper Colorado River Basin. Development of this salinity control project started in 2007.

All aforementioned projects were separate and complete projects with independent utility. These projects have been implemented to meet the goals of Reclamation's Salinity Control Program and in conjunction with the Proposed Action are expected to have a cumulative positive impact on the water quality in the Upper Colorado River Basin.

1.7 Scope of Analysis

The purpose of this EA is to determine whether or not Reclamation should authorize, provide funding, and enter into an agreement with the SCIC for the piping of the Antelope and North 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 pipe the Antelope and North Laterals, 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 proposed piping project.

Chapter 2 Alternatives

2.1 Introduction

The Proposed Action evaluated in this EA is Reclamation's authorization of Federal funds for the improvements deemed most appropriate for the Antelope and North Laterals under present day conditions. Information contained within this EA will be used to determine the potential effects on the human and natural environment. This document will guide Reclamation's decision on the implementation of the Proposed Action. The Proposed Action (the Action Alternative) is analyzed in comparison with a No Action Alternative in order to determine potential effects to the existing/baseline conditions.

If Reclamation chooses to implement the Proposed Action, SCIC would be authorized to proceed with piping the Antelope and North Laterals to reduce the salinity contributions to the Upper Colorado River Basin. If Federal funds are authorized for the project, the SCIC would construct, operate and maintain these new pipeline features in place of the existing open laterals. The new pipelines, existing easements, and newly acquired easements would become a feature of the SCIC irrigation system.

2.2 No Action

Under the No Action Alternative, Reclamation would not authorize the use of Federal funds to pipe the Antelope and North Laterals. The open, unlined laterals would continue to deliver irrigation water with no improvements to reduce seepage. Up to approximately 30 percent of the irrigation water (14 cfs) would continue to be lost to seepage, evapotranspiration, and other operational losses. Seepage from the laterals would continue to dissolve into the sandy soils and lead to an increase in the salt loading of the Upper Colorado River Basin. Currently, seepage from these two open laterals contribute an estimated 1,474 tons of salt annually to the Upper Colorado River Basin (Appendix A. Salt Worksheet).

2.3 Proposed Action

Under the Proposed Action Alternative, Reclamation would authorize the use of Federal funds to pipe the SCIC Antelope and North 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 1,474 tons annually (Appendix A. Salt Worksheet). 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 3.4-miles of new pipeline, 1.8 miles along the Antelope lateral and 1.6 miles along the North Lateral. Pipe sizes would range from 30 to 16 inches, with larger pipes being used at the start of the pipelines and reducing in size towards the end 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 to account for the pipelines and associated operation and maintenance. The construction of the pipeline would result in approximately 3,000 linear feet of newly acquired easements. 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 is anticipated for the proposed project. Construction of the Proposed Action (including staging areas and the habitat replacement site) is anticipated to temporarily disturb approximately 58.9 acres of land. All easements would be acquired in the name of the SCIC.

2.3.2 Turnouts, Drains, Services, and Meters

Under the Proposed Action, the existing Antelope diversion would be replaced with a new structure that would include a screening device to prevent debris from entering the pipelines. The main pipelines would have splitter boxes that would deliver water to individual farms. Gates and valves would also be installed to allow operators to control water allocation along the pipelines.

2.3.3 Construction Schedule

The proposed project is anticipated to begin in the fall of 2016, pending environmental approval. Construction activities would take place outside of the typical irrigation season, with construction occurring between October 1st through April 1st. The project is anticipated to be completed by April 2018.

2.3.4 Construction Procedures

2.3.4.1 Pipeline Construction

Construction of pipelines are anticipated to occur in the following sequence: mobilization of construction equipment, delivery of pipe to identified construction staging areas, excavation of the trenches, fusing of the pipelines, backfill over the pipe, compaction of the backfill, 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 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 to park 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 - Project Alignment). These impacts are discussed in Chapter 3.

2.3.4.3 Land Disturbance

The proposed pipeline alignments total approximately 3.4-miles in length and would require a maximum construction easement of 100 feet (50-feet of the centerline of the lateral/pipeline alignments). Land disturbance would be confined to identified staging areas, the habitat replacement site, and the 100-foot wide construction easement along the lateral/pipeline alignment. Transportation to the project would follow existing access roads, wherever possible to minimize disturbance. If necessary, any new access roads would be within the proposed 100-width construction easement.

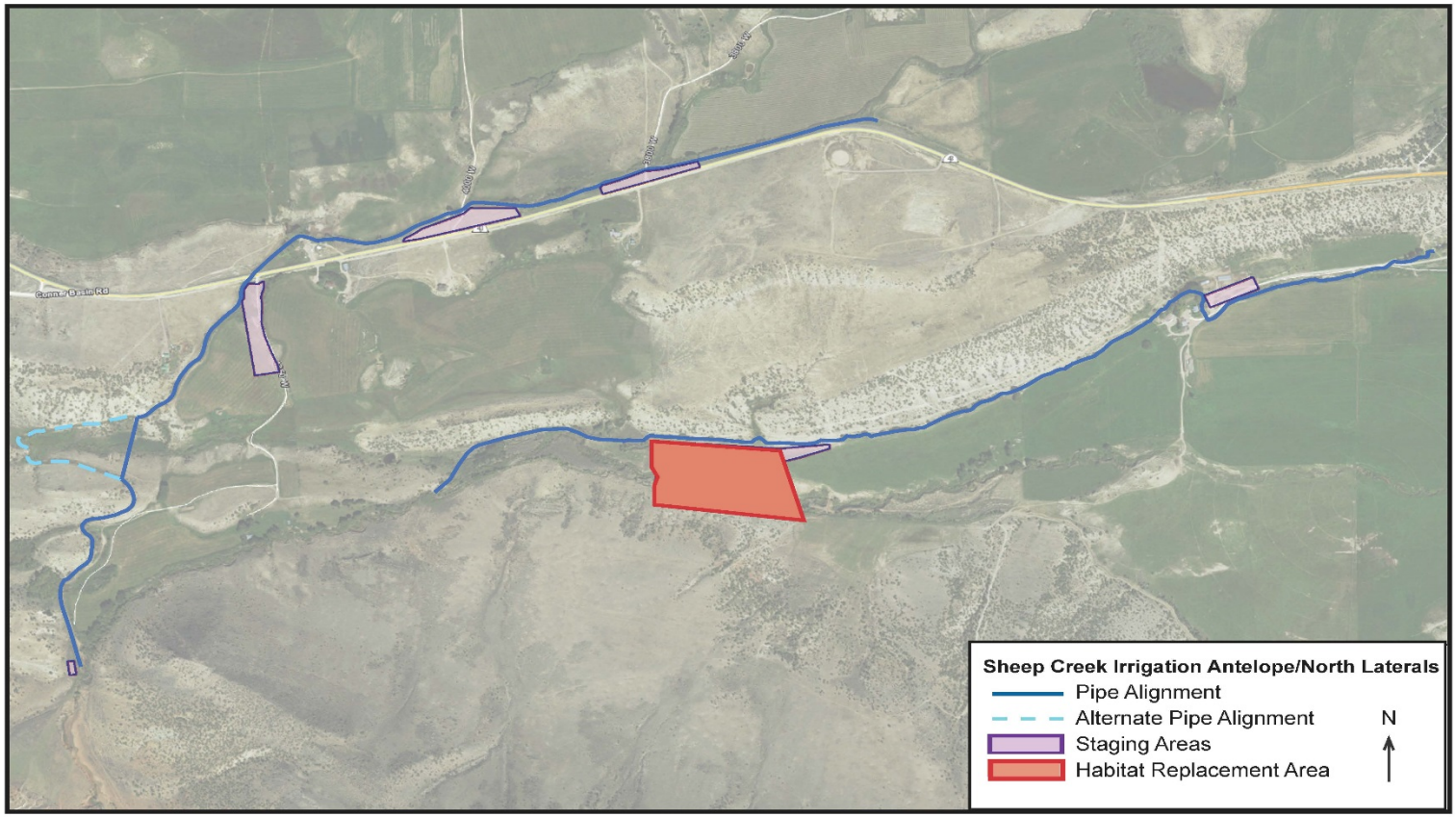


Figure 2 –Project Alignment

2.4 Alternatives Considered and Eliminated from Further Study

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

2.4.1 Membrane Lining

Under the Membrane Lining Alternative, a liner would be placed in the Antelope and North 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, or equipment that enters the open laterals.

This alternative does not meet the purpose of and need for the project because it would keep the water in an open environment, thus allowing evaporation of irrigation waters. Damage to the liner from livestock and maintenance vehicles entering the open lateral would likely lead to seepage, which would reduce the efficiency of the laterals and 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 trash from entering the lateral. Therefore, the alternative was eliminated from further evaluation in this EA.

2.5 Comparison of Alternatives

The suitability of the No Action Alternative and Proposed Action (the Preferred Action as described in Section 2.3) were compared based on potential environmental impacts (detailed in Chapter 3) and five objectives identified for the project. The objectives are:

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

As shown in Table 2-1, the No Action Alternative did not meet all of the project's objectives, while the Proposed Action (the Preferred Action) met all five objectives. The Proposed Action (the Preferred Action as identified in Section 2.3) was selected for evaluation in this EA.

Table 2-1
Comparison of Alternatives

Project Objective	Does the No Action Alternative Meet the Objective?	Does the Proposed Action 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 have been determined throughout the creation of this EA to lessen the potential adverse effects to sensitive resources. The minimization measures listed below, along with other measures listed under each resource 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 located where they would minimize new disturbance of area soils and vegetation.
- Ground disturbance would be minimized to the extent possible.
- 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 monitored for impacts to native vegetation.
- Stockpiling of materials would be limited to those areas approved and cleared in advance.

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 to the environment are discussed under the following: geology and soils resources; visual resources; cultural resources; paleontological resources; wilderness and wild and scenic rivers; hydrology; water quality; system operations; health, safety, air quality and noise; prime and unique farmlands; flood plains; wetlands, riparian, noxious weeds, and existing vegetation; fish and wildlife resources; threatened, endangered, and sensitive species; recreation resources; socioeconomics; access and transportation; water rights; Indian Trust Assets (ITAs); and environmental justice. 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 are summarized in Section 3.7.

3.2 Resources Considered and Eliminated from Further Analysis

The following resources 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 is so minor (negligible) that it was discounted.

Table 3-1
Resources Eliminated from Analysis

Resource	Rationale for Elimination from Further Analysis
Recreation Resources	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 and natural environment and that could be impacted by Reclamation authorizing the use of Federal funds for the construction and operation of the Proposed Action, as described in Chapter 2 The human and natural environment is defined in this study as the environmental resources, including social and economic conditions occurring in the impact area of influence.

3.3.1 Geology and Soils Resources

Minor to 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. A few areas, particularly those with higher slopes, have a severe 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 with slopes ranging from 0 to30 percent. The composition of the soil in the project area is detailed in Table 3-2, and a map showing the composition of the soil found in Appendix B. Soil Survey.

Table 3-2
Composition of Soils within the Project Area

Soil Type	Percent of Project Area
Redcreek-Blackhall-Rock outcrop complex, 6 to 35 percent slopes	23%
Blackhall-Kappes-Rentsac complex, 0 to 8 percent slopes	21%
McFadden fine sandy loam, 6 to 10 percent slopes	17%
Blackhall-Rentsac complex, 6 to 25 percent slopes	14%
Brownston-Luhon-McFadden complex, 3 to 15 percent slopes	12%
Kappes-McFadden fine sandy loams, 2 to 6 percent slopes	8%
McFadden fine sandy loam, 0 to 6 percent slopes	2%
Poposhia loam, 3 to 6 percent slopes	2%
Blazon-Delphill complex, 6 to 30 percent slopes	1%

3.3.1.1 No Action Alternative

Under the No Action Alternative, there would be no adverse effects to soil erosion and sedimentation. Soil erosion from 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 re-graded during construction. In the short-term period during and immediately following construction, erosion and sedimentation may increase. Best Management Practices (BMPs) 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 soil would return to a pre-project condition once vegetation is established. 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 ranges from 6,880 to 7,220 feet above sea level. Most of the project area has been previously disturbed and converted to agricultural or residential uses. The project area is located in a valley within adjacent hillsides with slopes ranging from 2 percent to 35 percent.

3.3.2.1 No Action Alternative

There would be no new structures or changes to the existing view shed 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.

3.3.2.2 Proposed Action

Under the Proposed Action, the proposed pipeline would be buried and the site would be restored to its original condition. Visual impacts associated with construction activities would be temporary. There would be no long-term impacts to the visual resources within the project area.

3.3.3 Cultural Resources

A Class I records search and a Class III cultural resource inventory were completed for the Area of Potential Effect (APE), identified and analyzed under the Proposed Action, by Certus Environmental Solutions, LLC. (Certus) in December 2015 (Appendix C. Cultural and Paleontological Resources). An updated survey was performed in June 2016 to account for the addition of staging areas and the habitat replacement site. A total of 58.9 acres were inventoried during the Class III cultural resource inventory to identify any cultural resources within the APE. Certus identified one isolated occurrence, two historical canals, and four prehistoric archaeological sites within the APE.

A single isolated occurrence was found within the APE. The isolated occurrence was located along the north side of the North Lateral.

In accordance with 36 CFR 800.4, site 42DA002045 (Antelope Lateral) and site 42DA002046 (North Lateral) were evaluated for significance in terms of NRHP eligibility. The significance criteria applied to evaluate cultural resources are 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.

The archaeologist recommended site 42DA002045 (Antelope Lateral) and site 42DA002046 (North Lateral) eligible for the National Register of Historic Places (NRHP) under Criterion A. The Proposed Action would cause an alteration to the characteristics of sites 42DA002045 and 42DA002046 which make them eligible for the NRHP and would, therefore, have an effect on the resources according to 36 CFR 800.16(i).

In accordance with 36 CFR 800.5, the criteria of adverse effect were applied to sites 42DA002045 and 42DA002046. 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 laterals and would, therefore, have an adverse effect to the historic properties.

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 a determination of historic properties affected were submitted to the Utah State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation (ACHP), and tribes which may attach religious or cultural significance to historic properties possibly affected by the Proposed Action for consultation.

Pursuant to 36 CFR 800.6(c), a Memorandum of Agreement (MOA) would be developed to resolve the adverse effects to sites 42DA002045 and 42DA002046. Signatories to the MOA would include all parties that assume a responsibility under the agreement, including, but not limited to, Reclamation, Utah SHPO, SCIC, and if they choose to participate, the ACHP and tribes.

As noted above, the cultural resource survey identified four prehistoric archaeological sites within the APE. These resources – sites 42DA002041, 42DA002042, 42DA002043, and 42DA002044 – are all lithic scatters lacking temporally diagnostic artifacts or features. The survey concluded that sites 42DA002041, 42DA002042, and 42DA002043 were ineligible for NRHP listing under all criteria. However, site 42DA002044 may provide information useful in refining the existing understanding of prehistoric land uses, particularly the cultural chronology of the area, and thus appears to be eligible for NRHP listing under Criterion D.

Piping of the North Lateral would create limited areas of ground disturbance inside the southern boundary of site 42DA002044. This portion of the site has already been disturbed by construction of the canal, creation and use of a gravel farm/maintenance road, and agricultural crop cultivation. This disturbance has been, for the most part, relatively shallow. Limiting further disturbance for the piping of the canal to the previously disturbed soils (both horizontally and vertically) would likely avoid adverse effects to site 42DA002044. Monitoring of any excavation in this location by a qualified archaeologist with an approved discovery plan may be appropriate to ensure avoidance of adverse effects. If required, this activity would be included in the MOA.

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 conditions would remain intact and would not be affected.

3.3.3.2 Proposed Action

Under the Proposed Action, the open, earthen irrigation laterals would be replaced with a buried HDPE pipeline and would result in an adverse effect to the Laterals (sites 42DA002045 and 42DA002046). Mitigation measures for the adverse effects to the Laterals would be outlined in a MOA in accordance with 36 CFR 800.6(c).

Piping of the North Lateral canal would create limited areas of ground disturbance inside the southern boundary of site 42DA002044. Monitoring of construction-related excavation near site 42DA002044 by a qualified archaeologist with an approved discovery plan would be recommended to ensure avoidance of adverse effects to site 42DA002044.

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.

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. 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. The irrigation water travelling through the Antelope and North Laterals comes from the Long Park

Reservoir. The laterals receive supplemental hydrology in the form of run-off from adjacent hillsides and other higher elevations.

An estimated annual average of 1,474 tons of salt reaches the Upper Colorado River Basin due to deep percolation of water conveyed by the Antelope and North Laterals (Appendix A. Salt Worksheet). The salt is transported through seepage from the laterals. The water from the laterals leaches salt from the gypsum-rich saline marine shale as it travels subsurface 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 SCIC system.

3.3.5.2 Proposed Action

The Proposed Action would prevent seepage and increase the efficiency of water delivery through the Antelope and North Laterals. This would result in an estimated 25 to 30 percent increase in water traveling to agricultural users along the laterals. 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 Antelope and North Laterals are classified as Class 4 waterways by the State of Utah. Class 4 waterways are protected for agricultural uses including irrigation of crops and stock watering (Utah Department of Environmental Quality 2016). The Antelope and North Laterals provide flood irrigation to agricultural users. Flood irrigation causes excess soil moisture, infiltration of water vertically downward through the soil to a shale layer, and horizontal movement of water downstream. 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 the water. The seeps and springs within the Sheep Creek Drainage area contribute to an estimated 13,000 tons of salt per year to the Colorado River Basin (NRCS 2006). The Antelope and North Laterals are estimated to contribute 1,474 tons of salt per year (Appendix A. Salt Worksheet). This salt loading degrades the water quality of the Upper Colorado River Basin.

3.3.6.1 No Action Alternative

Under there No Action Alternative, there would be long-term minor to moderate adverse impacts to the water quality in the area. Salt loads from the deep percolation of seepage from the laterals would continue to degrade water quality

in the area. 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 Long Reservoir to meet water user's needs.

3.3.6.2 Proposed Action

The Proposed Action would reduce seepage from the Antelope and North Laterals. The reduced seepage would result in an estimated 1,474 fewer tons of salt from annually reaching the Upper Colorado River Basin (Appendix A. Salt Worksheet). Piping the open, unlined laterals would also prevent debris and pollution from runoff entering the irrigation system. This would result in minor long-term reduced salinity in the local waterways and improvements to the long-term water quality of the Upper Colorado River Basin.

3.3.7 System Operations

The SCIC canal system consist of 22 miles of canals from Tamarack, Jessen, Daggett and Spirit Lake. The water in the SCIC system is diverted from the Long Park Reservoir which has a storage capacity of 14,000 acre feet (NRCS 2006). The Antelope and North laterals are components of the SCIC irrigation system. The Antelope lateral serves approximately 3,155 acres of agricultural land, and delivers approximately 39 cfs. The North Lateral delivers approximately 10 cfs of irrigation water to users along the approximate 10,000 feet of the unlined lateral.

3.3.7.1 No Action Alternative

Under the No Action Alternative, the SCIC 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 open laterals.

3.3.7.2 Proposed Action

The Proposed Action would increase the efficiency of the system operations be reducing the amount of water lost through the open laterals. System operations would also improve under the proposed action as maintenance would be greatly reduced. The Proposed Action would therefore result in a long-term beneficial impact on the operations of the SCIC 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 Daggett County, Utah. Safety concerns in the area are generally related to traffic along Highway 43 which is located in the northern portion of the project area. Safety concerns include those

related to typical vehicle and truck traffic occurring along the highway. There are no other safety or public health concerns in the project area.

Public safety resources in the general vicinity of the project area include the Manila Police Department and the Manila Fire Department both are located approximately 1-mile outside 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 Utah Division of Air Quality. The National Ambient Air Quality Standards (NAAQS) established by the EPA under the Clean Air Act (CAA) specify limits of air pollutants for carbon monoxide, particulate matter (PM 10 & PM 2.5), ozone, sulfur dioxide, lead, and nitrogen. If the levels of a criteria pollutant in an area are 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 Daggett County which is in attainment for all criteria pollutants.

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 42 to 65 dBA based on the proximity of the state highway that runs through the northern portion 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 public health, air quality, or noise.

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. Air quality impacts from land disturbance activities such as excavation and compaction of soils along the project alignment would be short-term. Noise and air quality impacts would be mitigated through the implementation of BMPs throughout construction. BMPs would include a dust mitigation plan and proper maintenance of construction equipment.

3.3.9 Prime and Unique Farmlands

The project area is comprised primarily of agricultural lands. However, a review NRCS's Soil Survey indicates that the project area does not contain any prime, unique or statewide important farmland (Appendix B. Soil Survey).

3.3.9.1 No Action Alternative

The No Action Alternative would continue to allow salts to accumulate in the irrigation laterals that deliver water to agricultural users in the area. Furthermore, 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 protected 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.

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 (piping an existing canal) and the fact that no permanent right-of-way would be required for project implementation, there would be no impact to farmland from the Proposed Action.

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 area (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. 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*), and narrowleaf cottonwood (*Populous augustifolia*). Reed canarygrass (*Phalaris arundinacea*) and Canada thistle (*Cirsium arvense*) are also found in locations within the project area.

The U.S. Fish and Wildlife Service's (USFWS's) National Wetlands Inventory (NWI) database was consulted to evaluate the presence of wetland features in the vicinity of the project area. A field survey was performed by a qualified wetland specialist in spring 2016. The NWI map (found in Appendix D. Habitat Replacement Plan) and the information obtained during the field assessment indicates that there are areas of freshwater emergent wetland vegetation located in the canal prisms. This wetland vegetation is irrigation-induced and found in low-lying areas within the canal laterals and adjacent to agricultural.

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 in the project area include Scotch thistle (*Onoprodum acanthium*), spotted knapweed (*Centaurea maculosa*) and Dyer's Woad (*Isatis tinctoria*).

3.3.11.3 Existing Vegetation

The majority of the land in the project area is comprised of human-altered vegetation as a result of agricultural uses. Agricultural activities have replaced native upland vegetation with alfalfa and pasture grasses. Non-agricultural vegetation such as cheatgrass (*Bromus tectorum* L.) and thistle (*Cirisium* 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.), juniper (*Junipreus* 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 communities would remain in their current condition, 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 wetlands and riparian vegetation would be permanently impacted by the piping of the laterals. Piping the laterals would result in a total loss of irrigation-induced wetlands and riparian vegetation caused by seepage from the laterals. Areas of wetland and riparian vegetation loss may experience an increase in nonnative species including 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 as a result of project implementation (including the loss of the riparian vegetation) would be replaced by SCIC 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 wetland and 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 Trent Toler, Biologist from J-U-B Engineers, Inc. (Appendix D. Habitat Replacement Plan).

According to the USACE, the replacement of open channel irrigation with a pipe is considered an irrigation exemption under RGL 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 Clean Water Act (CWA). Under this exemption, no USACE permitting is required for impacts to irrigation-induced wetlands. Consultation with USACE is warranted prior to construction of the Proposed Action to confirm whether the proposed project qualifies for an irrigation exemption.

Upland areas would experience short-term losses of vegetation. Brush and grasses would be impacted during construction by the operation of equipment, excavation, 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. These non-native species typically recover more quickly after a disturbance than

native species. 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 approved by a Reclamation biologist.

BMPs would be followed to reduce impacts to native vegetation, including staging materials outside of sensitive areas, such as streams 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 treatment to control noxious and invasive species.

3.3.12 Fish and Wildlife Resources

Fish and wildlife in the general vicinity of the project area include large mammals, small mammals, raptors, waterfowl, migratory songbirds, upland game birds, and a small number of reptiles and amphibians. It is likely that all animals in the vicinity of the project area rely to some extent on the Antelope and North Laterals for water. However, with several other open canals in the immediate vicinity, enclosing the Antelope and North Laterals should have little-to-no effect on the animals' ability to find adequate water resources. The Antelope and North Laterals do not contain any viable fish habitat (Appendix E. Biological Evaluation).

3.3.12.1 Fish

There is no viable fish habitat in the project area as the laterals do not serve as fish habitat and there are no natural waterways in the project area.

3.3.12.2 Wildlife

The areas surrounding the proposed project area provide year-round habitat to several species of big game, such as mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus nelsoni*). In addition, many small mammals frequent the general vicinity of the proposed project 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, water fowl and upland game bird species may be found in and near project area. Red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), Canada goose (*Branta Canadensis*), mallard (*Anas platryrhynchos*), mourning dove (*Zenaida macroura*), and California quail (*Callipepla californica*) are all known to frequent the general area.

3.3.12.4 Reptiles and Amphibians

Reptiles and amphibians that may occur in the project area include the tiger salamander (*Ambystoma tigrinum*), Great Basin rattlesnake (*Crotalus viridis*), 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, and there would be no gains or losses to these resources. Salinity loading of the Colorado River Basin would continue at current rates, which may affect water quality within the drainage, thereby impacting the wildlife using the area.

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 and the area would be restored post-construction.

After construction, areas disturbed by construction would be re-contoured, replanted, and reseeded with native vegetation 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 and maintenance there could be a short-term displacement (approximately 3 to 6 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, could include direct mortality and displacement during construction activities. Small mammal species may experience reduced populations 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. It is anticipated, due to the minor amount of habitat disturbance, that minor to no impact to wintering big game populations would occur.

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 should not impact breeding or nesting.

Those species, including avian and amphibian species, which are dependent on wetland and riparian habitats, would experience a long-term (greater than 5 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 that has been 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 within the Colorado River System.

3.3.13 Threatened, Endangered, and Sensitive Species

The Endangered Species Act (ESA) lists for the proposed project area include four endangered species and three threatened species. 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*), Canada lynx (*Lynx Canadensis*) and Ute ladies'-tresses (*Spiranthes diluvialis*) are listed as threatened species (Appendix E. Biological Evaluation). 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 Project Area

Species	ESA Status	Documented Occurrence in Proposed Project Area
Bonytail chub (*Gila elegans*)	Endangered	No
Colorado pikeminnow (*Ptychocheilus lucius*)	Endangered	No
Humpback chub (*Gila cypha*)	Endangered	No
Razorback sucker (*Xyrauchen texanus*)	Endangered	No
Yellow-billed Cuckoo (*Coccyzus americanus*)	Threatened	No
Canada lynx (*Lynx Canadensis*)	Threatened	No
Ute ladies'-tresses (*Spiranthes diluvialis*)	Threatened	No

The Utah Division of Wildlife Resources (UDWR) maintains a central database for Species of Concern in Utah. On February 9, 2016, the UDWR provided a response letter regarding information on State Species of Concern with documented occurrences in the vicinity of the proposed project area. The UDWR response letter identified two State Species of Concern with records of occurrence within a 2-mile radius of the proposed project action area: the bald eagle (*Haliaeetus leucocephalus*) and the white-tailed prairie dog (*Cynomys leucurus*). The UDWR response letter did not list any documented occurrences of the Federally listed species listed within a 2-mile radius of the proposed project area (Appendix E. Biological Evaluation).

A biological evaluation was conducted in the spring of 2016 (Appendix E. Biological Evaluation). 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. Information obtained during site visits by Reclamation biologists performed in August 2015 and August 2016 suggest that there may be limited amounts of suitable habitat for the Ute ladies'-tresses in and adjacent to the project area.

3.3.13.1 No Action Alternative

Salinity loading of the Upper Colorado River Basin would continue at current rates due to seepage from the Antelope and North Laterals, which would impact water quality within the drainage, thereby impacting wildlife using the area.

3.3.13.2 Proposed Action

There are no documented occurrences of federally listed threatened, endangered, or candidate species within the project area. Biological site surveys completed in August 2015 and August 2016 determined that the Proposed Action would have no effect on 6 of the 7 federally listed species identified as potentially occurring within the proposed project area. Reclamation and USFWS staff determined that the Proposed Action may affect, but is not likely to adversely affect the Ute ladies'-tresses (Appendix E. Biological Evaluation).

3.3.14 Socioeconomics

Information obtained from the 2010 U.S. Census, indicates that Manila, Utah, has a total population of 331 residents. Data regarding the economic standing of residents located along the project corridor was not available at the time that this EA was prepared. However, 2010 U.S. Census data indicates that 8.3 percent of Daggett 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

The No Action Alternative would have no effect on the socioeconomic conditions or activities of those living in the project area.

3.3.14.2 Proposed Action

The project area lies on privately owned land in Daggett County, Utah. After a review of the 2010 Census information, populations that could potentially be affected by the project were evaluated. There are only two residences within the project action area, the economic standing of those living in these residences is unknown. However, the implementation of the Proposed Action is not anticipated to have any impact on the socioeconomic conditions in project area or the general area. The Proposed Action would not involve population relocation, property takings, or substantial economic impacts.

3.3.15 Access and Transportation

One major transportation resource, Utah State Highway 43, runs through the proposed project area alongside the Antelope Lateral for approximately 1 mile. Local and county roads are located in and adjacent to the project area.

3.3.15.1 No Action Alternative

Access and transportation resources would not be impacted by the No Action Alternative.

3.3.15.2 Proposed Action

The Proposed Action may cause limited delays along State Highway 43 due to construction vehicles entering and exiting the highway. Although no temporary road closures are planned, any temporary road or access closure would be coordinated with local law enforcement and emergency services. Therefore, there are no anticipated long-term impacts to access or transportation resources from the Proposed Action.

3.4 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 all 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 Manila, Utah has a total population of 331 residents. Of these residents, 8 residents identify 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 8.3 percent of Daggett County residents' incomes were below the poverty level. Therefore, a minority and/or low-income population may exist in the general vicinity of the project area. However, implementation of the Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the project area. The Proposed Action would not involve population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. 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. The proposed area and duration of disturbance under the Proposed Action would be minimal and short-term. Long-term impacts are not expected to create negative cumulative impacts to environmental resources. Several other salinity control projects related to the lateral systems of the Upper Colorado River Basin have been implemented by Reclamation over the past 10 years (see Section 1.6). These salinity control project should result in a positive cumulative impact on water quality. Based on Reclamation review of the Proposed Action, Reclamation has determined that this 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 (detailed in Table 3-1).

Table 3-4
Summary of Environmental Effects

Project Resource	No Action	Proposed Action
Geology and Soil Resources	No Effect	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 the Laterals (sites 42DA002045 and 42DA002046). A MOA outlining mitigation measures for the adverse effect would be signed and implemented prior to the commencement of construction activities.
Paleontological Resources	No Effect	No Effect
Hydrology	Water lost to seepage will 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 impacts.	Long-term benefits to water quality from the decreased salinity.
System Operations	Long-term minor to moderate impacts from deteriorating system and maintenance requirements.	Long-term benefits from increased efficiency and decreased maintenance.
Health, Safety, Air Quality and Noise	No Effect	Minor short-term effects due to fugitive dust and

Project Resource	No Action	Proposed Action
		equipment exhaust from construction activity. Mitigate with BMPs.
Prime and Unique Farmlands	No Effect	No Effect
Wetlands, Riparian, Noxious Weeds, and Existing Vegetation	No Effect	There would be permanent loss of irrigation-induced wetlands and riparian vegetation along the laterals. The loss would be mitigated through the Habitat Replacement Plan (Appendix D). 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	No Effect	Minor short-term disturbance and displacement during construction. Downstream fish habitat may be improved as a result of long-term increased water quality. There would be permanent loss of riparian areas once the Laterals are piped. A Habitat Replacement Plan would be implemented to replace foregone wildlife values (Appendix D).
Threatened, Endangered, and Sensitive Species	No Effect	May effect but not likely to adversely affect determination for the Ute ladies'-tresses. The Project would adhere to mitigation measures required for the Ute

Project Resource	No Action	Proposed Action
		ladies'-tresses determined through informal consultation with USFWS.
Socioeconomics	No Effect	No Effect
Access and Transportation	No Effect	Minor temporary disruptions are possible along Highway 43 due to construction traffic entering and exiting the roadway.
Indian Trust Assets	No Effect	No Effect
Environmental Justice	No Effect	No Effect
Cumulative Effects	No Effect	Cumulative effects from the Proposed Action and related actions were assessed during the resource evaluation. This analysis determined that there were no adverse cumulative impacts. Instead, there are beneficial long-term effect from the numerous salinity control projects that have taken place in the general area.

Chapter 4 Environmental Commitments

This chapter outlines the environmental commitments 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 BMP - Standard Reclamation BMPs would be applied during construction activities to minimize environmental effects and would be implemented by construction forces, or 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. The Project would adhere to mitigation measures required for the Ute ladies'-tresses determined through informal consultation with USFWS. 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. UPDES Permit - A UPDES Permit would be required from the State of Utah 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, and the sediment and other contents collected would be hauled off the site for appropriate disposal upon completion of the project.

4. Fugitive Dust Control Permit - The UDAQ regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than one-quarter of an acre. Utah Administrative Code R307-205-5, 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. 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 Utah 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. A MOA would be executed to mitigate the adverse effect to sites 42DA002045 and 42DA002046. 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 as a result of project implementation would be replaced by SCIC through a habitat replacement plan approved by Reclamation following coordination with Federal and State wildlife officials (Appendix D. 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 all 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

Scoping letters were sent to agencies at the commencement of the EA. No agencies scoping comments were received. Reclamation also sent the Draft EA to interested individuals, groups, municipalities and agencies *(pending EA comment period).*

5.3 Native American Consultation

Reclamation conducted Native American coordination. Consultation letters and copies of the Class III cultural resource inventory report were sent to *(pending Native American consultation).*

5.4 Utah Geological Survey

A paleontological file search was requested from the Utah Geological Survey (UGS) to determine the nature and extent of the paleontological resources within the Proposed Action disturbance area. *(consultation is pending).*

5.5 Utah State Historic Preservation Office

Copies of the Class III cultural resource inventory reports and a determination of historic properties affected for the Proposed Action were submitted to the Utah SHPO. (*consultation is pending*).

5.6 US Fish and Wildlife Service

Coordination with the USFWS took place throughout the development of the EA. USFWS provided comments and guidance on the HRP, species occurrence and the potential impacts on Ute ladies'-tresses. The mitigation measures required for the Ute ladies'-tresses were determined through informal consultation with USFWS (see Appendix E). (*Consultation is pending*)

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
Seth Coleman	Biologist	J-U-B Engineers, Inc.
Ryan Cosby	GIS Specialist	Gateway Mapping, Inc.
Brian Deeter	Project Manager	J-U-B Engineers, Inc.
Sheri Murray Ellis	Archaeologist	Certus Environmental Solutions, LLC.
Jon Frazier	Design Engineer	J-U-B Engineers, Inc.
Marti Hoge	Senior Environmental Planner	J-U-B Engineers, Inc.
Trent Toler	Biologist	J-U-B Engineers, Inc.

Table 6-2
Reclamation Team Members

Name	Title	Company
Linda Morrey	Secretary	Bureau of Reclamation
Rick Baxter	Resource Program Manager	Bureau of Reclamation
Peter Crookston	Environmental Group Chief	Bureau of Reclamation
Dale Hamilton	Resource Program Manager	Bureau of Reclamation
Gary Henrie	Hydrologist	Bureau of Reclamation
C. Shane Mower	ID Team Lead, Fish & Wildlife Biologist	Bureau of Reclamation
Zachary Nelson	Archaeologist	Bureau of Reclamation
Ben Radcliffe	Engineer	Bureau of Reclamation
Prashant Singh	Economist	Bureau of Reclamation
David Snyder	Fish & Wildlife Biologist	Bureau of Reclamation

Chapter 7 Acronyms and Abbreviations

Acronym/Abbreviations	Meaning
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
ARPA	Archaeological Resource Protection Act
BIA	Bureau of Indian Affairs
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEQ	State of Utah Department of Environmental Quality
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
HQS	Habitat Quality Score
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
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PM	Particulate Matter
PRPA	Paleontological Resources Preservation Act
Reclamation	U.S. Bureau of Reclamation
SCIC	Sheep Creek Irrigation Company
SHPO	Utah State Historic Preservation Office
UDAQ	Utah Division of Air Quality
UDWR	Utah Division of Wildlife Resources
UGS	Utah Geological Service
UPDES	Utah Pollution Discharge Elimination System
USACE	U.S. Army Corps of Engineers

Acronym/Abbreviations	Meaning
USC	United States Code
USFWS	U.S. Fish and Wildlife Service

Chapter 8 References

Natural Resource Conservation Service (NRCS) 2006. Plan and Environmental Assessment. Manila-Washam Project Area of the Colorado River Salinity Control Program.

Natural Resources Conservation Service [NRCS]. Web soil survey. Accessed June 1, 2016 at http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm.

U.S. Bureau of Reclamation. Basin Wide and Basin States Salinity Control Programs, Fiscal Year 2015. Accessed May 16, 2016 at http://www.usbr.gov/uc/progact/salinity.

U.S. Bureau of Reclamation. Colorado River Basin Salinity Control Program. Accessed on May 16, 2016 at http://www.usbr.gov/uc/progact/salinity.

U.S. Census Information accessed online at: http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk and at http://www.census.gov/quickfacts/table/INC110214/49009

Utah Department of Environmental Quality. Utah's Water Resources, Planning for the Future. May 2001. Accessed June 2, 2016 at http://www.water.utah.gov/planning/swp/ex_swp.htm.

Chapter 9 Appendices

Appendix A. Salt Worksheet

UC-240
ADM-13.00

Appendix F-1

Mr. Boyd Pallesen, President
Sheep Creek Irrigation Company
P.O. Box 274
Manila, UT 84046

Subject: Funding Opportunity Announcement (FOA) No. R15AS00037 – Colorado River Basinwide and Basin States Salinity Control Programs – Salt Load Reduction Estimate for the Antelope and North Laterals Project.

Dear Mr. Pallesen:

Thank you for submitting the Salt Load Reduction Worksheet and the relevant appendices. We understand your project will involve replacing approximately 23,012 feet of earthen lateral with an irrigation pipeline system. Based on the accepted salinity studies in the Manila/Washam area, the annual salt load reduction estimate for your proposed irrigation delivery system improvements is 1,474 tons. Salt load reduction estimates for the individual components of the proposed project are listed in the enclosed table.

The salt load reduction estimates provided in this letter are based on the best and current available updated and re-interpreted and thus these estimates may change. If these estimates change after receipt of this you will be notified by a similar letter by no later than July 1, 2015. The salt load estimates provided during this FOA are only valid for this FOA. In future FOAs, current salt load estimates will need to be requested.

The salt load reduction estimate must be reported in the application as the off-farm estimated salt load reduction in Part III, item C.2 and Part I, item F. It must also be used to calculate the cost effectiveness of the project in Part III, item C.4; the cost effectiveness also must be reported in Part I, item G. This letter and the enclosed table must be attached to the project proposal as Appendix F.

As stated in Section IV.B of the FOA, your final application must be received by 3 p.m. MDT, July 17, 2016. It is important that you provide the requested information for all applicable sections of the required format in a brief and concise manner in the spaces provided for your responses. The required electronic format for the project proposal can be downloaded from websites; www.grants.gov and www.usbr.gov/uc/progact/salinity.

We strongly encourage you to read the OMB Circulars that apply to your organization. The circulars can be found at
http://www.whitehouse.gov/omb/grants/grants_circulars.html.

Funding agreements resulting from this solicitation will reimburse your organization of the actual allowable costs you incur to complete the project, up to the amount of the award. Successful applicants will be required to utilize competitive processes for the acquisition of materials and construction subcontracts. Sole source subcontracts will not be allowed except for engineering design, accounting, and legal services.

Cost allowability is governed by Office of Management and Budget (OMB) Circulars A-87, A-110, and A-122, depending upon the type of organization. Any cost incurred for the project in excess of the agreement amount is the responsibility of your organization.

It will be a requirement of the funding agreements executed with successful applicants that all facilities (i.e., earthen canals and laterals and diversion structures) being replaced, shall be rendered unusable by removal of the structures and refilling the prisms in order to assure the proposed salinity reduction. Costs for removing structures and refilling the prisms should be included in the cost of the salinity project.

False claims or mistakes made in the application that are discovered during the agreement award process will require that application to be re-rated, rea-ranked and could result in the application not being awarded or termination of the agreement award.

If you have any questions, please contact me at 801-524-3753, Brad Parry at 801-524-3723 or, Ben Radcliffe at 801-379-1213.

Sincerely,

Kib Jacobson
Colorado River Basin Salinity Control
Program Manager

Enclosures – 2

bc: UC-240, UC-242, UC-823, UC-826
PRO-211, WCG-JSottilare

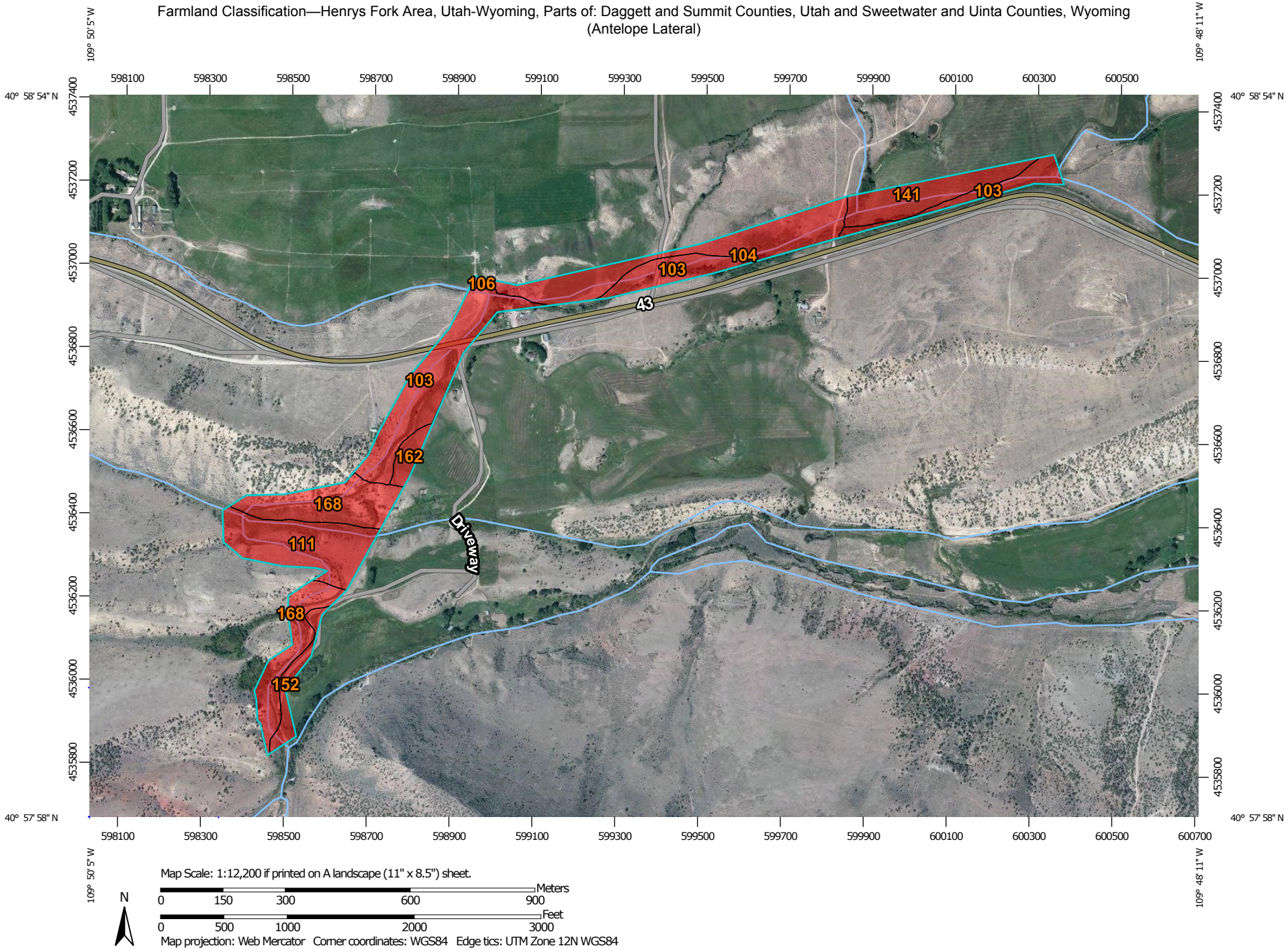
Salt Load Reduction Basis & Estimate

Item	Units	Identify individual canal, lateral, or ditch				
Canal/Lateral Name		**Antelope Lateral**	**North Lateral**			
Length of existing canal/lateral/ditch	feet	12,984	10,198			
Irrigated acreage served	acres	3,155				
Irrigation season						
Avg. daily diversion	cfs	32.8	5.9			
Average seasonal diversion	ac-ft					
Average no. of days water carried	days	128	128			
Non-irrigation season (winter water)						
Average daily diversion	cfs	0	0			
Average seasonal diversion	ac-ft	0	0			
Average no. of days water carried	days	0	0			
Length of ditch carrying winter water	miles	0	0			
Describe EXISTING lined or piped sections						
Lined length	miles	0	0			
Liner type (concrete, earth, etc)	See Note 1	NA	NA			
Year installed	year	NA	NA			
Liner condition	See Note 2	NA	NA			
Piped length (see Note 3)	feet	170	NA			
Remaining unlined/unpiped length	feet	12,814	NA			
Length to be replaced/improved	feet	12,814	10,198			23,012 ft.
Proposed replacement material	pipe or liner	Pipe	Pipe			
Estimated Salt Reduction	Tons/yr.	971	503			1,474 T/yr.

Notes: 1. Type of liner may be concrete, earth (clay), membrane or other (please specify).
2. Condition of liner should be rated as poor, satisfactory, good.
3. Disregard dispersed pipe segments with individual lengths of less than 100 feet

Appendix B. Soil Survey

Farmland Classification—Henrys Fork Area, Utah-Wyoming, Parts of: Daggett and Summit Counties, Utah and Sweetwater and Uinta Counties, Wyoming
(Antelope Lateral)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
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: Henrys Fork Area, Utah-Wyoming, Parts of: Daggett and Summit Counties, Utah and Sweetwater and Uinta Counties, Wyoming
Survey Area Data: Version 13, Sep 22, 2015

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

Date(s) aerial images were photographed: Jun 27, 2010—Sep 7, 2010

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 — Henrys Fork Area, Utah-Wyoming, Parts of: Daggett and Summit Counties, Utah and Sweetwater and Uinta Counties, Wyoming (WY638)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
103	Blackhall-Kappes-Rentsac complex, 0 to 8 percent slopes	Not prime farmland	18.5	28.5%
104	Blackhall-Rentsac complex, 6 to 25 percent slopes	Not prime farmland	11.8	18.2%
106	Blazon-Delphill complex, 6 to 30 percent slopes	Not prime farmland	0.2	0.4%
111	Brownsto-Luhon-McFadden complex, 3 to 15 percent slopes	Not prime farmland	10.2	15.8%
141	Kappes-McFadden fine sandy loams, 2 to 6 percent slopes	Not prime farmland	6.7	10.3%
152	McFadden fine sandy loam, 0 to 6 percent slopes	Not prime farmland	2.3	3.6%
162	Poposhia loam, 3 to 6 percent slopes	Not prime farmland	1.7	2.6%
168	Redcreek-Blackhall-Rock outcrop complex, 6 to 35 percent slopes	Not prime farmland	13.4	20.6%
Totals for Area of Interest			**64.8**	**100.0%**

Description

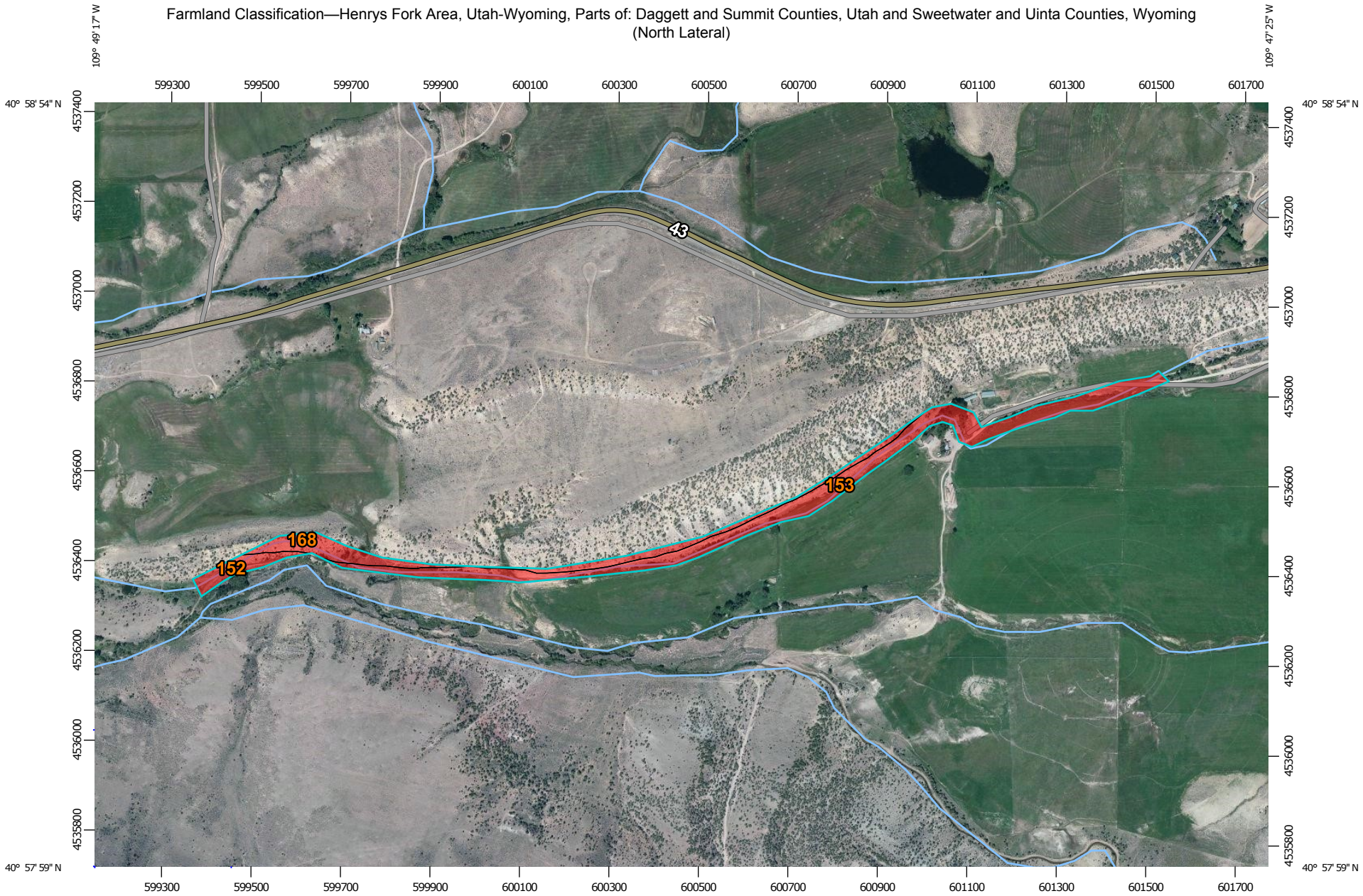
Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime 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

Farmland Classification—Henrys Fork Area, Utah-Wyoming, Parts of: Daggett and Summit Counties, Utah and Sweetwater and Uinta Counties, Wyoming
(North Lateral)



Map Scale: 1:12,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1000 2000 3000

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
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- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
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- Prime farmland if irrigated and reclaimed of excess salts and sodium
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- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
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- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
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- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

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Transportation

Rails

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US Routes

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Background


Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
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: Henrys Fork Area, Utah-Wyoming, Parts of: Daggett and Summit Counties, Utah and Sweetwater and Uinta Counties, Wyoming
Survey Area Data: Version 13, Sep 22, 2015

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

Date(s) aerial images were photographed: Jun 27, 2010—Sep 7, 2010

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Farmland Classification

Farmland Classification— Summary by Map Unit — Henrys Fork Area, Utah-Wyoming, Parts of: Daggett and Summit Counties, Utah and Sweetwater and Uinta Counties, Wyoming (WY638)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
152	McFadden fine sandy loam, 0 to 6 percent slopes	Not prime farmland	1.8	8.4%
153	McFadden fine sandy loam, 6 to 10 percent slopes	Not prime farmland	14.5	66.0%
168	Redcreek-Blackhall-Rock outcrop complex, 6 to 35 percent slopes	Not prime farmland	5.7	25.7%
Totals for Area of Interest			**22.0**	**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 C. Cultural and Paleontological Resources

Cultural and paleontological consultation is pending.

Appendix D. Habitat Replacement Plan

The Habitat Replacement Plan is pending. The habitat scoring is attached.

August 2, 2016

David Snyder, Fish & Wildlife Biologist
Bureau of Reclamation, Provo Area Office
302 East 1860 South
Provo, UT 84606

Subject: Sheep Creek Irrigation Company Antelope and North Laterals Salinity Control Project – Concurrence request linked to habitat replacement needs.

David Snyder:

The intent of this letter is to serve three primary purposes, which include: (1) to provide the U.S. Bureau of Reclamation (Reclamation) a detailed project narrative for the proposed Antelope and North Laterals Salinity Control Project (Proposed Project); (2) to quantify the anticipated habitat replacement requirements correlated to the Proposed Project; and, (3) to request concurrence from Reclamation with regard to the quantified Total Habitat Value (THV) Units estimated for the Proposed Project.

Project Description and Evaluating Habitats

A field survey for the anticipated action area was completed on May 21, 2015, and then the North Lateral and parts of the Antelope were revisited on November 5, 2015, by Trent Toler, Biologist from J-U-B ENGINEERS, Inc., to assess and rate the current habitat conditions. During the May site visit, irrigation water was actively flowing. The Antelope Lateral is discussed as two sections, north and south (of SR 43), because of a variation in the habitat between the two section of the canal. The North Lateral was scored and discussed as one section.

This report documents the potential impacts to wildlife habitat value from the proposed piping project to reduce the salinity loading of the Upper Colorado River Basin. Reclamation's standardized protocol (Basinwide Salinity Control Program: Procedures for Habitat Replacement, March 2013) which used to assess the habitat quality in the proposed project disturbance area. Reclamation's protocol uses ten separate parameters (such as vegetative diversity, connectivity, and water supply) to rate habitat quality (scores range from 0 to 10) and uses a formula to determine the THV. The formula to arrive at THV = Area (in acres) x the net change in Habitat Quality Scores (HSQ). To arrive at the area, the laterals were divided into discrete segments that each share a common quality, vegetation type, and average width of habitat. To calculate the acreage of each segment, the width of the habitat along the banks is multiplied by the length of that segment, then converted into acreage.

Habitat Assessment and Scoring

Scoring for each of the segments in the Antelope and North Laterals are summarized in Tables 1 and 2. The Antelope Lateral was divided into twelve segments, including the proposed new alignment section for the cutoff. The North Lateral was divided into fourteen segments, including the proposed new alignment section shortly before the east terminus by the Pallesen Farm.

a 2875 S. Decker Lake Dr., Suite 575, Salt Lake City, UT 84119 p 801 886 9052 f 801 886 9123 w www.jub.com

Table 1. Total Habitat Value Scoring for Antelope Lateral.

Segment	Habitat Quality Score (HQS)	Acreage	Total Habitat Value (THV)[a]
A1	3	0.054	0.16
A2	5.4	0.013	0.07
A3	3	0.049	0.15
A4	3	0.102	0.31
A5	No loss	--	--
A6	3	0.026	0.08
A7	5	0.072	0.36
A8	4.7	0.013	0.06
A9	4.4	0.098	0.43
A10	4.1	0.109	0.45
A11	4.4	0.029	0.13
A12	4.1	0.207	0.85
	Total	**0.772**	**3.05**

[a] THV = Habitat Quality Score x Acreage

Antelope Lateral – South

Most of the vegetation along the banks of the canal (8-12 ft wide OHWM) through this portion of the Antelope Lateral has been cleared, but a few scattered shrubs remain. The habitat type for this area is disturbed riparian shrub and due to the cutting and clearing (regular canal maintenance) generally achieved low scores (HQS of 3.0) with a few exceptions (Photos 1 and 2). In some sections (segments A3, A4, and A6), one bank of the canal is nearly vertical and tall, with no riparian vegetation (Photos 2 and 3). The only other habitat type along this stretch is shrubby riparian. Most of this habitat type is found in two stretches, one by a wet area above the canal (segment A2) and the other near SR 43 (segment A7). The shrubby riparian (segment A2) is less disturbed so it scored much higher (5.4) (Photo 4). This section of the Antelope Lateral where the canal turns sharply as it passes through a shallow valley contains wet areas both upslope and downslope from the canal. There is a known spring upslope and west of the canal that supports these wet areas. The water appears to be used for irrigation by the landowner on the other side of the canal. The other shrubby riparian segment by SR 43 (segment A7) has had some disturbance on the east bank of the canal, but the vegetation is generally intact on the west bank (Photo 5).

One section of the Antelope Lateral will be abandoned (segment A4) where the canal had previously traversed the slopes of a steep valley. That loop of the canal will be cut off and the pipeline placed across the valley (segment A5) (Photo 6). As the habitat along this new alignment is not currently supported by the canal water, this new section was scored as “no loss”. The valley does contain some mesic and possibly wetland habitats where groundwater and precipitation concentrates in the lower parts of the valley (Photo 7). Although the canal currently crosses through this valley, the vegetation in the valley appears to have hydrological support independent of the canal. Any potential wetland areas would be avoided by the new alignment through the center of the valley.

Antelope Lateral – North

Conditions are similar in the section of the Antelope Lateral north of SR 43, with the same two primary habitat types. However, the disturbed riparian shrub was in better condition (generally HQS of 4.1 to 4.7) than in Antelope Lateral – South area, with some banks partially cleared of vegetation but other short sections without recent clearing (Photos 8 and 9). The short wooded riparian sections were also somewhat disturbed (HQS of 4.4) (Photos 10 and 11). No wetland areas appeared to be a part of this section, though there were some parallel smaller distribution ditches (Photo 11).

Table 2. Total Habitat Value Scoring for North Lateral.

Segment	Habitat Quality Score	Acreage	Total Habitat Value (THV)[a]
N1	No loss	--	--
N2	5.2	0.019	0.10
N3	4.8	0.013	0.06
N4	5.4	0.144	0.78
N5	5	0.009	0.05
N6	No loss	--	--
N7	5	0.173	0.86
N8	4.8	0.013	0.06
N9	4.8	0.050	0.24
N10	4.9	0.047	0.23
N11	4.7	0.020	0.09
N12	4.7	0.121	0.57
N13	4.5	0.019	0.08
N14	No loss	--	--
	Total	**0.628**	**3.12**

[a] THV = Habitat Quality Score x Acreage

North Lateral

The North Lateral is much narrower and a little shorter than the Antelope, generally with an OHWM of approximately 3 ft. As this lateral has not been maintained by cutting or removing vegetation, it still retains most of its vegetation, even though some disturbance from the agricultural operations has occurred in these areas. Where all the vegetation surrounding the canal for some distance has been cleared and grubbed a total of 5 habitat types were observed. The disturbed habitat type was only found in two locations (segments N1 and N6) (Photos 12 and 13). Those two segments were scored as “no loss” as no habitat currently exists that would be lost from pipe installation. The shrubby riparian segments (segments N2, N4, N9, and N12) contains a mix of an herbaceous layer and a minor willow-cottonwood sapling and small tree layer of varying widths (Photos 14, 15, and 16). Disturbance to these sections originates from the agricultural operations in the area. The herbaceous riparian (segments N3, N5, N8, and N11) was of a medium value but mostly contained grasses, forbs, and other herbaceous species (Photos 17 and 18). The wooded riparian areas (segments N7 and N10) contain a medium quality habitat because of some cutting and disturbance around farm buildings and operations (Photos 19 and 20). Lastly, the disturbed riparian shrub (segment N13) was a mix of vegetation layers but all affected by livestock use or limited ditch

maintenance (clearing) (Photo 21). There is also a new section (segment N14) where the pipe would be placed not in the original ditch but under the Pallesen farm property and along the farm road (also scored as “no loss”). The section that would be abandoned (segments N11 and N12) because of the new pipe would not be filled in but left open. Although some surface runoff or precipitation could collect in the open section, irrigation water would no longer flow as it previously did.

Conclusion

The proposed project would 6.2 THV units of replacement to account for habitat potential lost from the implementation of the project. If the Reclamation concurs with the calculated THV for the proposed Antelope and North Laterals Piping Project, please offer Sheep Creek Irrigation Company or J-U-B ENGINEERS, Inc. (the project consultant) a brief letter to this effect.

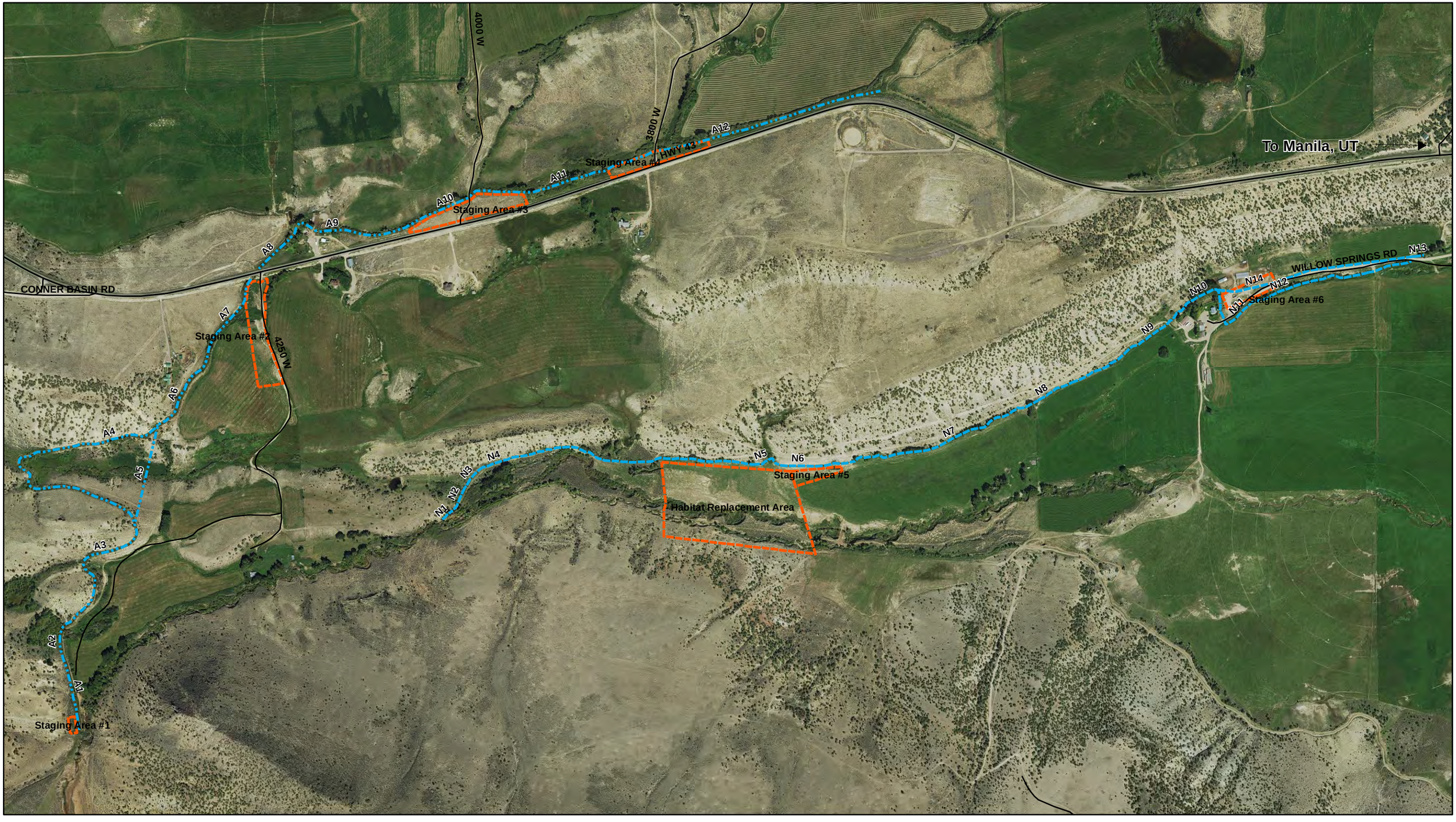
I appreciate your time and expertise and look forward to hearing from you soon in regards to this matter. If you have any questions or concerns regarding this concurrence request, please feel free to contact me at either ttoler@jub.com or by phone at 801-886-9052.

Sincerely,

Trent Toler, Biologist
J-U-B ENGINEERS, Inc.

Attachments:

1. Habitat Assessment Map
2. Photo Inventory
3. Habitat Assessment Excel Worksheets



Legend

Antelope Lateral

North Lateral

Staging Areas

1 inch = 667 feet

N W E S

0 500 1,000 2,000 3,000 Feet

J·U·B ENGINEERS, INC.

Antelope & North Lateral Piping Project
Habitat Assessment Map
Canal Segments

PHOTO INVENTORY

Photos taken on May 21 and November 5, 2015.

Photo 1. Segment A1 habitat by the Olson Weir and near the diversion structure, looking south.

Photo 2. Segment A3 habitat, looking west.

Photo 3. Segment A4 habitat, close to beginning of Segment A6, and looking east.

Photo 4. Segments A2 (in the background) and A3, looking south.

Photo 5. Segment A7, near the bridge under SR 43, and looking south.

Photo 6. Segment A5, the proposed new pipe alignment across the small valley, looking north. Segment A4 can be seen in the upper left of the photo as a horizontal break in the slope.

Photo 7. Valley vegetation within the loop of Segment A4 (can be seen in the upper left side as a cut across the slope), looking east.

Photo 8. Segment A10, looking west.

Photo 9. Segment A12 by the Olson-Pallesen Weir, looking west.

Photo 10. Segment A11, near A10, and looking east.

Photo 11. Segment A11, near A12, looking west.

Photo 12. Segment N1 near diversion structure, looking northeast.

Photo 13. Segment N6, looking southwest toward the South Valley Habitat Replacement Area in the distance (where work was underway at the time).

Photo 14. Segment N4, looking west.

Photo 15. Segment N9, looking east.

Photo 16. Segment N12, looking west.

Photo 17. Segment N5, looking west.

Photo 18. Segment N11, next to Pallesen Farm, looking west (A12 is in the distance).

Photo 19. Segment N7, looking east.

Photo 20. Segment N9 (foreground) and N10 (background), looking east.

Photo 21. Segment N13, near the east terminus, looking east.

Project: Antelope Lateral, Sheep Creek - Manila, Utah

Assessment Conducted By: Trent Toler (JUB Engineers, Inc.)

Seg. ID	Veg. Diversity	Strati-fication	Native vs. Non- native	Noxious Weeds	Veg. Health	Disease Present	Interspersion of Open Water with Vegetation	Conn-ectivity	Uniqueness or Abundance	Water Supply	Alter-ation	Total	HQS	Length	Width	Habitat Acreage	THV
1	1	0	6	9	2		1	5	2	4	0	**30**	**3**	**588**	**4**	**0.054**	**0.16**
2	5	4	8	9	8		1	5	6	4	4	**54**	**5.4**	**279**	**2**	**0.013**	**0.07**
3	1	0	6	9	2		1	5	2	4	0	**30**	**3**	**1071**	**2**	**0.049**	**0.15**
4	1	0	6	9	2		1	5	2	4	0	**30**	**3**	**2223**	**2**	**0.102**	**0.31**
5	No loss (new)											**0**	**0**	**759**		**0.000**	**0.00**
6	1	0	6	9	2		1	5	2	4	0	**30**	**3**	**565**	**2**	**0.026**	**0.08**
7	5	4	8	9	8		1	3	4	4	4	**50**	**5**	**782**	**4**	**0.072**	**0.36**
8	5	4	8	6	8		1	3	4	4	4	**47**	**4.7**	**292**	**2**	**0.013**	**0.06**
9	3	4	6	9	8		1	3	4	4	2	**44**	**4.4**	**533**	**8**	**0.098**	**0.43**
10	3	3	6	6	8		1	2	4	4	4	**41**	**4.1**	**1582**	**3**	**0.109**	**0.45**
11	3	4	6	9	8		1	3	4	4	2	**44**	**4.4**	**317**	**4**	**0.029**	**0.13**
12	3	3	6	6	8		1	2	4	4	4	**41**	**4.1**	**2259**	**4**	**0.207**	**0.85**

Date: May 21, 2015

Overall THV: **3.041**

Completed Pipe Lengths: **9027**

Total Habitat Acreage: **0.7726**

Project: North Lateral, Sheep Creek - Manila, Utah

Assessment Conducted By: Trent Toler (JUB Engineers, Inc.)

Seg. ID	Veg. Diversity	Strati-fication	Native vs. Non- native	Noxious Weeds	Veg. Health	Disease Present	Interspersion of Open Water with Vegetation	Conn-ectivity	Uniqueness or Abundance	Water Supply	Alter-ation	Total	HQS	Length	Width	Habitat Acreage	THV
1	No loss											0	0	96	0	0.000	0.00
2	5	4	8	9	8		1	3	4	4	6	52	5.2	209	4	0.019	0.10
3	3	2	8	9	8		1	3	4	4	6	48	4.8	193	3	0.013	0.06
4	5	4	8	9	8		1	5	4	4	6	54	5.4	2092	3	0.144	0.78
5	3	2	8	9	8		1	5	4	4	6	50	5	200	2	0.009	0.05
6	No loss											0	0	559	0	0.000	0.00
7	5	4	8	9	8		1	3	4	4	4	50	5	1504	5	0.173	0.86
8	3	2	8	9	8		1	3	4	4	6	48	4.8	290	2	0.013	0.06
9	5	4	8	9	6		1	3	4	4	4	48	4.8	1087	2	0.050	0.24
10	5	4	8	9	8		1	2	4	4	4	49	4.9	339	6	0.047	0.23
11	3	2	8	9	8		1	2	4	4	6	47	4.7	433	2	0.020	0.09
12	5	4	8	9	6		1	2	4	4	4	47	4.7	879	6	0.121	0.57
13	5	4	6	9	6		1	2	4	4	4	45	4.5	408	2	0.019	0.08
14	No loss (new)											0	0	1491	0	0.000	0.00

Date: May 21, 2015

Overall THV: **3.130**

Completed Pipe Lengths: **8289**

Total Habitat Acreage: **0.6280**

Appendix E. Biological Evaluation

Biological Assessment for the Antelope and North Laterals Salinity Control Project

Manila, Utah

October 4, 2016

Prepared for:
United States Department of the Interior
Bureau of Reclamation
Upper Colorado Region
Provo Area Office

Prepared by:
J-U-B Engineering, Inc.
2875 South Decker Dr. Ste. 575
Salt Lake City, UT 84119

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INTRODUCTION

This Biological Assessment (BA) has been prepared for the Bureau of Reclamation (Reclamation) as required by Section 7(c) of the Endangered Species Act (ESA), for the proposed Antelope and North Laterals Salinity Control Project located in Daggett County, Utah. The proposed project would pipe approximately 3.4 miles of unlined, open canals along the Antelope and North Laterals in the Sheep Creek Irrigation Company's(SCIC) irrigation system. The proposed project would begin at the diversion structures for both the Antelope and North Laterals and would continue along each lateral.

Purpose of the Biological Assessment

The objective of this BA is to assess the potential environmental impacts of the proposed Antelope and North Laterals Salinity Control Project. This report focuses on federally-listed plant and animal species in accordance with the requirements of Section 7 of the ESA. This BA includes species accounts, analysis of potential project-related impacts, and effects determinations for each species. This document is intended to provide the U.S. Bureau of Reclamation (Reclamation) and the U.S. Fish and Wildlife Service (USFWS) with the information necessary to evaluate the potential impacts associated with the proposed project, and the project committed conservation measures for species with expected effects or impacts.

DESCRIPTION OF PROPOSED ACTION

Purpose and Need

The purpose of the proposed action is to enclose approximately 3.5 miles of the open, unlined canals (See Appendix A. Project Exhibits). The need for the proposed action, consistent with Reclamation's salinity program, is to improve the efficiency of the existing system and reduce the amount of salt in the system by reducing water lost to seepage, evapotranspiration, and operational use.

Proposed Action

The proposed piping activities would occur along or adjacent to the existing alignment of both the Antelope and North Laterals about 5 miles east of Manila, Utah. More specifically, these improvements would be contained within Sections 19, 20, 21, 29 and 30, Township 3 North, Range 19 East (Salt Lake Base and Meridian) (see Appendix A. Project Exhibits). For illustrations of typical conditions throughout the project area, please see Appendix B. Photo Inventory. The elevation of the project area ranges from approximately 6,880 to 7,220 feet above sea level.

The Antelope and North Laterals Salinity Control Project would enclose approximately two, 1.5 to 2-mile sections of the existing open gravity-flow canal laterals in the Sheep Creek drainage. The Antelope Lateral runs north from its diversion for about .67 of a mile, along a slope above agricultural fields, to SR-43 where it crosses under the road then turns east and parallels SR-43 for a little less than a mile until it reaches the Pallesen-Slagowski-Pendleton Weir structure where the piping would end. High-density polyethylene (HDPE) DR 41 pipe ranging from 24 to 48 inches in diameter would be used.

The North Lateral runs east-northeast from its diversion for about 1.5 miles along the foot of a low ridge and along the edge of agricultural fields and buildings until it reaches the existing

Newell-Swedland-Olson Pond where the piping would end. HDPE DR 32.5 pipe would be used along the North Lateral. Pipe sizes would range between 12 and 18 inches in diameter.

The project would better manage 13,700 acre-feet of water in the Sheep Creek Irrigation Company system. This project is estimated to reduce the salt loading of the Upper Colorado River Basin by 1,474 tons per year. Any water savings from the proposed project would be diverted back to the river and all water in the SCIC irrigation system will remain in agricultural use. Construction is anticipated to take place over a six-month period beginning in October 2016. Construction activities would occur from October to early May, outside of the typical irrigation season.

Road Crossings

Existing roadway crossings would be maintained during construction. The pipe would either be installed in existing culverts or by an open cut across the pavement or gravel depending on the existing conditions at the two road crossings. One of the crossings would be beneath a County gravel road, and the other a State road (SR 43). No federal highways would be impacted by the proposed action.

Construction Activities

The anticipated construction equipment would include: compactors, excavators, backhoes, graders, and dump trucks for hauling materials. The most prevalent construction noise source would come from equipment powered by internal combustion engines (usually diesel). Noise from equipment used on this project would likely peak at approximately 89 decibels (dBA) when measured from a distance of 15 meters (50 feet). To reduce the impact of construction noise, most construction activities would be confined to weekdays between 7:00 a.m. and 7:00 p.m.

Best Management Practices (BMPs)

Best Management Practices (BMPs) would be in place to minimize direct, short-term construction impacts. Some of these measures include replanting barren locations (post-construction) with native vegetation and limiting noise/human-induced disturbances. BMPs are mandatory and would become part of the project design. They would include, but are not limited to the following:

1. Temporary Erosion and Sediment Control (TESC) structures (e.g. silt fences) would be in place during construction to limit sediment delivery into any adjacent drainage channels.
2. Excavation activities, staging areas, stock piling areas and embankment placement would occur only within staked limits of the project action area.
3. Temporary construction equipment noise would be minimized by regular inspection and replacement of defective mufflers and parts that do not meet the manufacturer's specifications.
4. Fueling of excavation equipment (e.g. excavators, backhoes, etc.) would be completed within the project action area only after ground surface protection is implemented to facilitate spill mitigation. The fueling truck would utilize drip pans and absorbent cloths during fueling activities. Additionally, the Contractor would have emergency spill equipment onsite at all times and would have a Spill Prevention Plan approved and in place prior to any construction activities. Dump

trucks, pickups and other general construction equipment would be fueled offsite at a commercial facility.

5. Any vegetation or land clearing is anticipated to be conducted outside nesting season for migratory birds (April 1 to August 15).
6. All disturbed areas would be reseeded upon project completion with an appropriate seed mix, approved by a Reclamation biologist, which contains species specific to the areas affected.
7. Noxious weed management for invasive weed control, would be implemented within the project footprint and would include washing construction vehicles before entering the project site and restoration of the project area including reseeding with native and agricultural seed mixes.
8. The project action area would be monitored on a regular basis by a designated construction monitor. The monitoring would consist of observing the TESC structures so that sediment does not reach active drainage channels. If any structure fails, it would be replaced immediately. If sediment deposits are observed beyond the control structures following a failure, the sediment would be removed immediately.

PROJECT ACTION AREA

The project action area for the Antelope and North Laterals Salinity Control Project includes the entire 3.5 miles of sections of both lateral canals as well as the work areas, staging areas, the habitat replacement area, and all other areas that may be affected by dust and noise totaling approximately 59 acres (See Appendix A. Project Exhibits). Therefore, the action area would be the same as the project area. The work would be conducted after the water in the canal is no longer flowing for the season. The land use surrounding the laterals is a combination of rural agriculture and open rangeland and not likely to be greatly affected by any temporary construction work.

STATUS OF LISTED SPECIES AND ASSOCIATED HABITAT

Site visits were conducted on May 21, 2015, November 5, 2015 and August 10, 2016, by Trent Toler, Qualified Biologist with J-U-B ENGINEERS, INC., in order to review the existing conditions within the project action area. Site visits were also conducted by Reclamation biologists on August 25, 2015 and August 10, 2016. In order to identify species of concern associated with the proposed project actions, a species list was obtained from the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) system. According to the IPaC Official Species Report (See Appendix C. Federal & State Agency Correspondence), seven federally listed species have potential to exist within the project action area. The species list summarized in Table 1 was derived from the habitat conditions and potential species occurrence within the defined project action area. No critical habitat has been identified in the project action area.

Table 1: Summary of Potential TES Species.

Common Name	Scientific Name	Occurrence	Effects
ENDANGERED			
Bonytail chub	*Gila elegans*	None	No Effect
Colorado pikeminnow	*Ptychocheilus lucius*	None	No Effect
Humpback chub	*Gila cypha*	None	No Effect
Razorback sucker	*Xyrauchen texanus*	None	No Effect
THREATENED			
Canada lynx	*Lynx canadensis*	None	No Effect
Yellow-billed cuckoo	*Coccyzus americanus*	None	No Effect
Ute ladies'-tresses	*Spiranthes diluvialis*	Low	May Affect But Not Likely to Adversely Affect

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

On February 9, 2016, the Utah Division of Wildlife Resources (UDWR) provided a response letter regarding information on ESA species (See Appendix C. Federal & State Agency Correspondence) in the vicinity of the proposed project action area. There are no occurrence records specified by the UDWR relating to the above mentioned federally-listed species within 2 miles of the project action area.

EFFECTS OF THE PROPOSED PROJECT ON LISTED SPECIES AND ASSOCIATED HABITAT

This section documents any direct, indirect, or cumulative effects to the threatened or endangered species and the associated habitat listed above (Table 1) as a result of implementing the proposed action. Any water savings from the proposed project would be diverted back to the river and all water in the SCIC irrigation system will remain in agricultural use.

Endangered Species

Bonytail Chub

The bonytail chub is a federally listed endangered 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, and competition and predation by exotic 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 2016).

Based on the information obtained from the UDWR and USFWS, there are no recent documented occurrences of the bonytail within the vicinity of the project action area and this project would not encroach or affect any viable fish habitat. There would be **no effect** to the bonytail.

Colorado Pikeminnow

The Colorado pikeminnow is a federally listed endangered 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, and competition and predation by non-native fishes. Colorado pikeminnow are mainly piscivorous, meaning they eat fish. Younger pikeminnow 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 pikeminnow prefer medium to large rivers. Young pikeminnow prefer slow-moving backwaters. Historical accounts of six-foot long Colorado pikeminnow make this species the largest minnow in North America (UDWR 2016).

Based on information obtained from the UDWR and USFWS, there are no recent documented occurrences of the Colorado pikeminnow within the vicinity of the project action area. In addition, the project area does not contain viable fish habitat; therefore, there would be **no effect** to Colorado pikeminnow.

Humpback Chub

The humpback chub is a federally listed endangered minnow native to the Upper Colorado River system. Humpback chub originally thrived in the fast, deep, whitewater areas of the Colorado River and its major tributaries. Man-induced flow alterations such as dams have changed the turbidity, volume, current speed, and temperature of the water in rivers and have contributed to significant population declines. Documented occurrences of the humpback chub in Utah are now confined to a few whitewater areas in the Colorado, Green, and White Rivers. 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 individuals reside in shallower, turbid habitats until they are large enough to move into whitewater areas (UDWR 2016).

Based on information obtained from the UDWR and USFWS, there are no recent documented occurrences of the humpback chub within the vicinity of the project action area. The project area is not located within the areas that this species inhabits and there is no suitable habitat present. Therefore, there would be **no effect** to the humpback chub.

Razorback Sucker

The razorback sucker is a 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, habitat loss, and competition and predation by 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 water-body), located along the Arizona - Nevada border (UDWR 2016).

Based on information obtained from the UDWR and USFWS, there are no recent documented occurrences of the razorback sucker within the vicinity of the project action area. This project would not impact any viable fish habitat. Razorback suckers are native to, and found exclusively within the Colorado River system and no suitable habitat is found within the project area. Therefore, there would be **no effect** to the razorback sucker.

Threatened Species

Canada Lynx

The Canada lynx (*Lynx canadensis*) is normally found in dense forested areas with an abundance of windfalls and brushy thickets. Lynx require heavy cover for concealment when stalking prey. In terms of their prey base, lynx depend on snowshoe hares and red squirrels. In

addition, lynx are most likely to persist in areas that receive deep snow, for which the lynx is highly adapted (USFWS 2005). In the western U.S., lynx occurrences generally are found only above 4,000 feet in elevation (McKelvey et al. 2000).

Based on our surveys and information obtained from the UDWR, there are no recent documented occurrences of the Canada lynx near the project action area. Through field reconnaissance, we documented that the area is a highly disturbed residential/agricultural environment, lacking multi-storied conifer cover and the prey base needed to support Canada lynx. Based on these factors, the proposed project would have **no effect** on the Canada lynx.

Yellow-billed Cuckoo (YBC)

The yellow-billed cuckoo is a federally listed threatened species. As the name suggests, this avian species has a yellow lower mandible. It has rufous wings that contrast against the gray-brown wing coverts and upperparts. The underparts are white and they have large white spots on a long black undertail (Alsop 2001). Yellow-billed cuckoos arrive in Utah in late May or early June and breed in late June through July. Cuckoos typically start their southerly migration by late August or early September. Yellow-billed cuckoos in the West are considered a riparian obligate and are usually found in large forested tracts of native cottonwood/willow habitats with dense sub-canopies (below 33 feet). Moist river bottoms and deltas with high humidity and a lack of invasive tree species are also key habitat elements (USFWS 2013). More specifically, the Proposed Rule for Critical habitat in the Federal Register (Vol. 79 No. 158 Pp. 48548-48652) describes habitat and space needs for normal life history behavior (non-critical habitat). Therein (Pp. 48551), it describes that YBC require "large tracts of willow-cottonwood or mesquite (Prosopis sp.) forest or woodland for nesting season habitat. Western YBCs rarely nest at sites less than 50 acres in size and sites less than 37 acres are considered unsuitable habitat." The project area, taking into consideration the entire length and width of the canal ROW, contains approximately 3.1 acres of habitat close to residential and agricultural areas along the Weber River.

Based on information obtained from the UDWR and USFWS, there are no documented occurrences of YBC within 2 miles of the project action area. The project area contains scattered cottonwood trees that parallel parts of both of the laterals through the farmland areas, but this does not meet the requirements of this species as outlined by the Federal Register. Therefore, based on the lack of suitable habitat in the project area and no known occurrences within 2 miles, implementation of the proposed action would have **no effect** on the yellow-billed cuckoo.

Ute Ladies'-tresses

Ute ladies'-tresses (ULT) 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 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 and seep habitats, mesic meadows, river meanders, abandoned oxbows, and floodplains. They require open habitats, and populations decline if trees and shrubs invade the habitat. They are not tolerant of permanent, stagnant 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 (1995), is mid-August through mid-September.
ULT surveys were conducted for the entire Project Action Area on August 25, 2015 and August 10, 2016 by qualified Reclamation biologists (Appendix A. Project Exhibits). No ULTs were found during either of these surveys.

Additional information obtained from the UDWR and USFWS, showed there were no documented occurrences of ULT near the project action area. The project area does contain canal edge habitats, but most of these edges are steep and incised, without a sloping wetland fringe. The Antelope Lateral has very steep and eroded banks in many sections, but in areas where the banks are not as steep, dense willows and other vegetation have grown. This area is periodically cut back by the irrigation company as a part of regular maintenance. In a few scattered locations along the North Lateral, there are a few vegetated sloping banks and small gravel bars that could be potential habitat. However, both laterals are emptied of water for half of the year, including part of the spring growing season, and without alternative hydrological support the canal banks are unlikely to maintain proper suitable habitat conditions throughout the year. There are also no known hydrologically connected source populations upstream of the project action area. Based on the current setting of the project footprint, the lack of hydrologically connected upstream occurrences, and the limited potentially suitable habitat, the proposed action **may affect but is not likely to adversely affect** the ULT.

Impact Avoidance and Minimization Measures

None of the listed species have been recorded in the area; additionally, no critical habitat exists in the area and only potentially suitable habitat exists for ULT. Therefore, no additional impact avoidance and minimization measures beyond the BMPs mentioned above would be necessary.

Conclusions and Determination of Effect

We determined that the anticipated construction activities to enclose two sections of the Antelope and North Laterals through the Sheep Creek drainage will have no effect on the following species: bonytail chub, Colorado pikeminnow, humpback chub, razorback sucker, Canada lynx, and yellow-billed cuckoo. However, the project may affect but is not likely to adversely affect the Ute ladies'-tresses. We ask concurrence of our findings of effect for these listed species.

LITERATURE CITED

Alsop, F. 2001. *Birds of North America (Western Region*). DK Publishing, Inc. New York, New York.

Keinath, D.A. 2004. Species Assessement for White-tailed Prairie Dog (Cynomys leucurus) in Wyoming. Prepared for United States Department of the Interior, Bureau of Land Management, Wyoming State Office, Cheyenne, WY. 48 pp.

McKelvey, K.S., K.B. Aubry, and U.K. Ortega. 2000. History and distribution of lynx in the contiguous United States. Pp. 207-264. In Ruggiero, L.F. K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires. (Tech. Eds.) Ecology and conservation of lynx in the United States. Univ. Press of Colorado. Boulder, Colorado. 480 pp.

Stalmaster, M.V. 1987. *The Bald Eagle*. Universe Books, New York, New York.

Stokes, D. and L. 1996. *Stokes Field Guide to Birds*. Little, Brown and Company, New York, New York.

Utah Department of Wildlife Resources (UDWR), Utah Conservation Data Center. 2016. http://dwrcdc.nr.utah.gov/ucdc/default.asp. Accessed May 16.

U.S. Fish and Wildlife Service (USFWS)

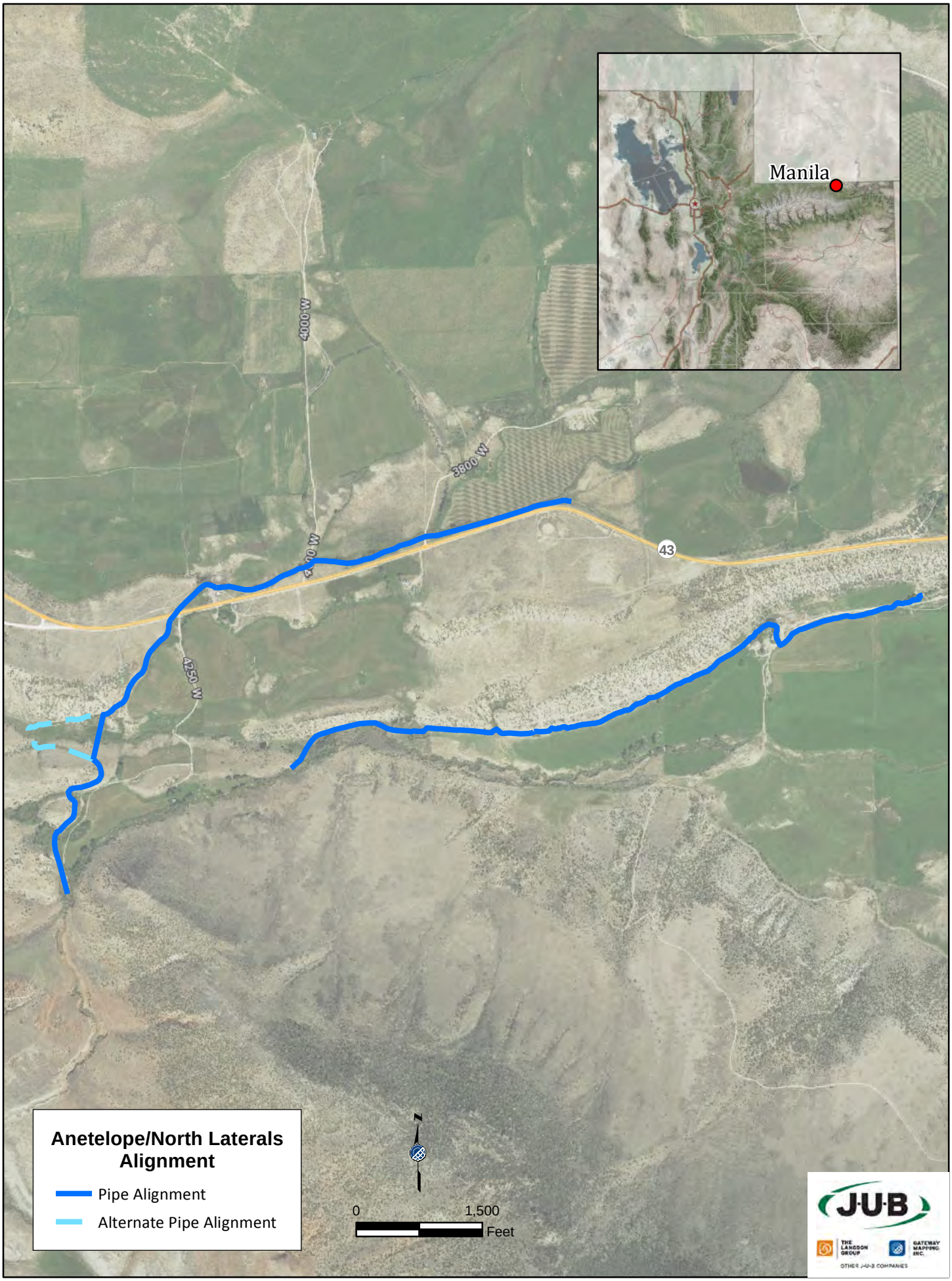
1995. Ute ladies'-tresses (*Spiranthes diluvialis*) Draft Recovery Plan. Denver, Colorado.

2005. Recovery Outline for the Contiguous United States Distinct Population Segment of the Canada Lynx (*Lynx canadensis*). Montana Field Office. Approved September 14, 2005.

2013. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*); Proposed Rule. 50 CFR Part 17 (October 3, 2013), pp. 61622-61666.

Appendix A.

Project Exhibits


Manila
4000 W
3800 W
4250 W
43
Anetelope/North Laterals Alignment
Pipe Alignment
Alternate Pipe Alignment
0
1,500
Feet
JUB
THE LANGDON GROUP
GATEWAY MAPPING INC.
OTHER JUB COMPANIES

Legend

- Area of Potential Effect
- Antelope Lateral
- North Lateral

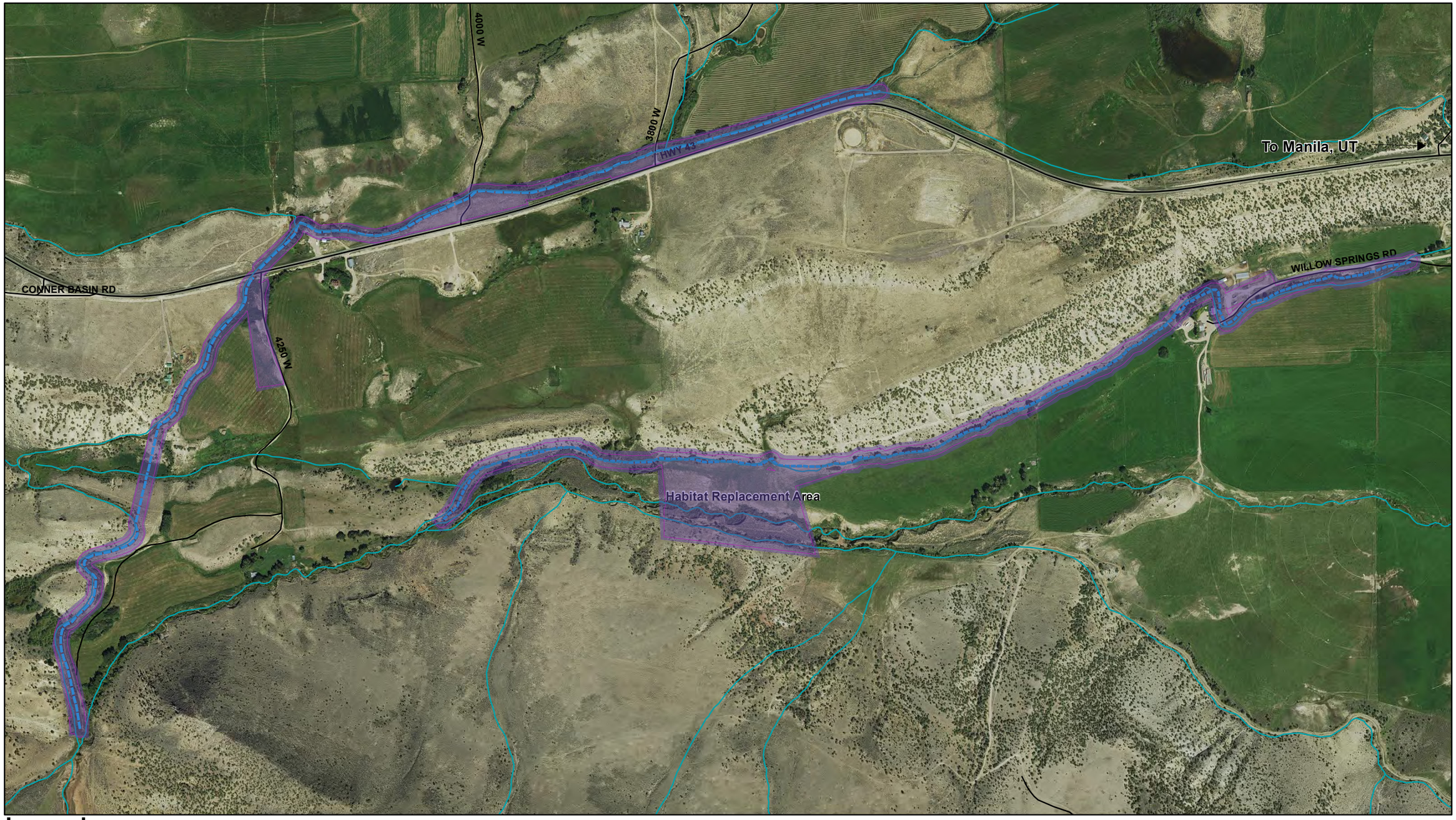
1 inch = 667 feet

N
W E
S

0 500 1,000 2,000 3,000 Feet

J-U-B ENGINEERS, INC.

Antelope & North Lateral Piping Project
Project Action Area



Legend

- ULT Survey Area
- Antelope Lateral
- North Lateral

1 inch = 667 feet

N W E S

0 500 1,000 2,000 3,000 Feet

J·U·B ENGINEERS, INC.

Antelope & North Lateral Piping Project
ULT Survey Area Exhibit

Appendix B.

Photo Inventory

PHOTO INVENTORY

Date of Photographs: May 21, 2016 unless otherwise noted.

Photo 1. Start of Antelope Lateral, looking north and downstream from diversion structure.

Photo 2. Typical section of the Antelope Lateral where regular maintenance has occurred, looking west along a section that will be abandoned and filled in.

Photo 3. A section of the Antelope Lateral that is north of and parallels SR 43 where regular maintenance has occurred, looking west.

Photo 4. Close to the east terminus of the Antelope Lateral piping, looking east.

Photo 5. Looking west towards the west terminus of the North Lateral, with the creek diversion structure in the background.

Photo 6. Typical section of the North Lateral through a mixed shrub area, looking east.

Photo 7. Disturbed section of the North Lateral upstream of the Pallensen Pond in the background, looking east.

Photo 8. Typical section of the North Lateral through the farming area, looking southwest.

Photo 9. Section of the North Lateral in a large, eroded gully shortly before the east terminus, looking west.

Photo 10. Area between the Antelope Lateral where the new pipeline would cross to cut off a sharp bend in the existing canal, looking north. (Date of photo: November 5, 2015)

Appendix C.

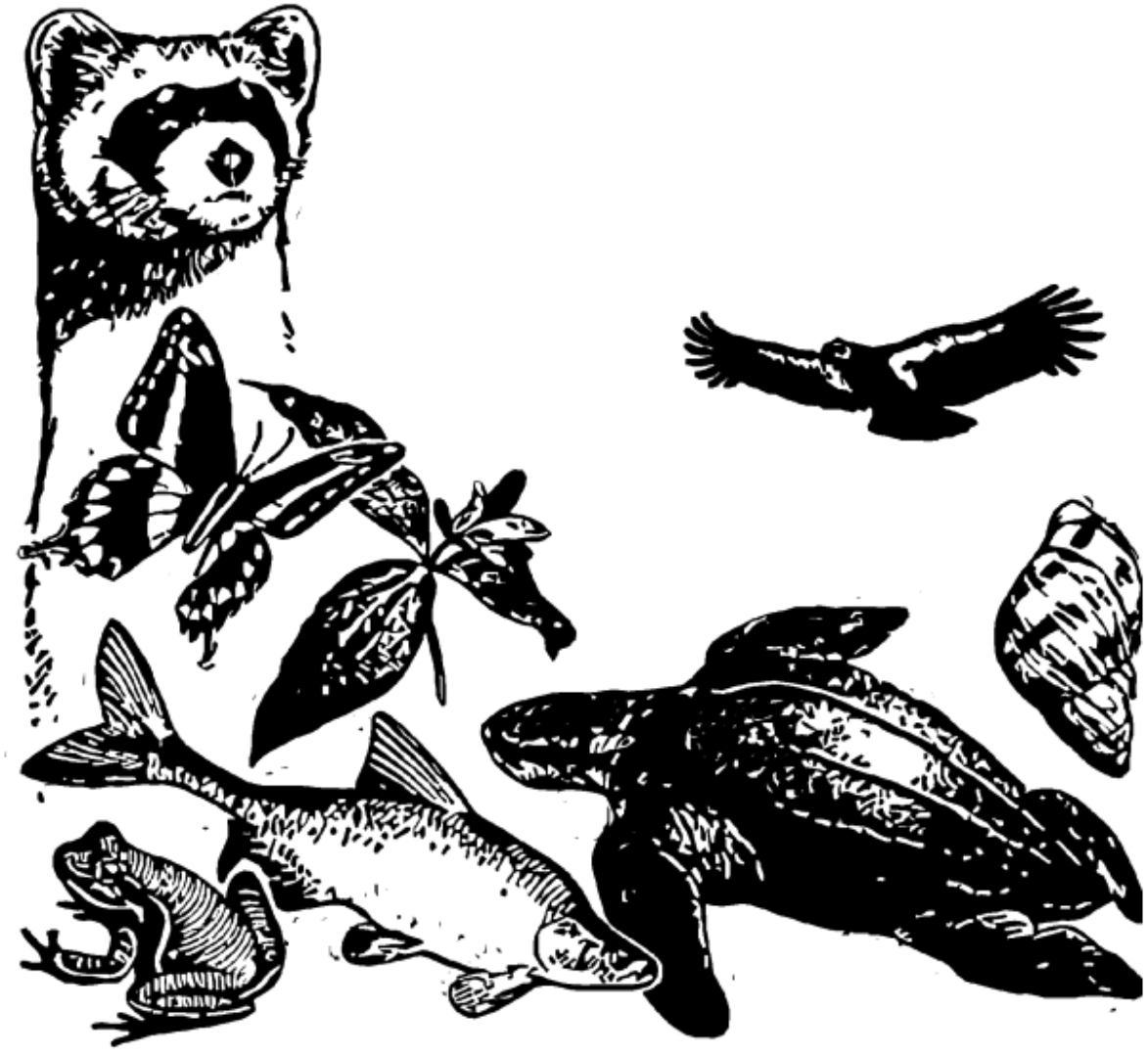
Federal and State Agency Correspondence

Sheep Creek Irrigation Company, Antelope and North Laterals Piping

IPaC Trust Resource Report

Generated November 09, 2015 09:28 AM MST

This report is for informational purposes only and should not be used for planning or analyzing project-level impacts. For projects that require FWS review, please return to this project on the IPaC website and request an official species list from the Regulatory Documents page.



US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

Sheep Creek Irrigation Company, Antelope and North Laterals Piping

PROJECT CODE

SMDFX-AIF7N-FKXCY-VZLRM-RVS6A4

LOCATION

Daggett County, Utah

DESCRIPTION

Piping of sections of the Antelope and North Lateral Canals

U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

Utah Ecological Services Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119-7603
(801) 975-3330

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an official species list on the Regulatory Documents page.

Birds

Yellow-billed Cuckoo Coccyzus americanus — Threatened

CRITICAL HABITAT
There is **proposed** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R

Fishes

Bonytail Chub Gila elegans — Endangered

CRITICAL HABITAT
There is **final** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E020

Colorado Pikeminnow (=squawfish) Ptychocheilus lucius — Endangered

CRITICAL HABITAT
There is **final** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E006

Humpback Chub Gila cypha — Endangered

CRITICAL HABITAT
There is **final** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E000

Razorback Sucker Xyrauchen texanus — Endangered

CRITICAL HABITAT
There is **final** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E054

Flowering Plants

Ute Ladies'-tresses Spiranthes diluvialis — Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q2WA

Mammals

Canada Lynx Lynx canadensis — Threatened

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A073

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Bittern Botaurus lentiginosus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Black Rosy-finch Leucosticte atrata — Bird of conservation concern
Year-round

Brewer's Sparrow Spizella breweri — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HA

Burrowing Owl Athene cunicularia — Bird of conservation concern
Season: Breeding

Calliope Hummingbird Stellula calliope — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0K3

Cassin's Finch Carpodacus cassinii — Bird of conservation concern
Year-round

Ferruginous Hawk Buteo regalis — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06X

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Breeding

Golden Eagle Aquila chrysaetos — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DV

Greater Sage-grouse Centrocercus urophasianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06W

Juniper Titmouse Baeolophus ridgwayi — Bird of conservation concern
Year-round

Lewis's Woodpecker Melanerpes lewis — Bird of conservation concern
Season: Breeding

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FY

Long-billed Curlew Numenius americanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06S

Mountain Plover Charadrius montanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B078

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AN

Pinyon Jay Gymnorhinus cyanocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0I0

Prairie Falcon Falco mexicanus — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0ER

Sage Thrasher Oreoscoptes montanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0ID

Short-eared Owl Asio flammeus — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Swainson's Hawk Buteo swainsoni — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B070

Williamson's Sapsucker Sphyrapicus thyroideus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FX

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F6

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

Wetlands

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Freshwater Emergent Wetland

PEMA 10.7 acres

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Wildlife Resources
GREGORY SHEEHAN
Division Director

June 19, 2015

Trent Toler
J-U-B Engineers
2875 South Decker Lake Drive, Suite 575
Salt Lake City, Utah 84119

Subject: Species of Concern Near the Antelope Lateral Head Screening and Piping Project

Dear Trent Toler:

I am writing in response to your email dated June 16, 2015 regarding information on species of special concern proximal to the proposed Antelope Lateral Head Screening and Piping Project located in Section 30 of Township 3 North, Range 19 East, SLB&M in Daggett County, Utah.

The Utah Division of Wildlife Resources (UDWR) does not have records of occurrence for any threatened, endangered, or sensitive species within the project area noted above. However, within a two-mile radius there are recent records of occurrence for white-tailed prairie-dog, a species included on the *Utah Sensitive Species List*.

The information provided in this letter is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, and because data requests are evaluated for the specific type of proposed action, any given response is only appropriate for its respective request.

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's northeastern regional habitat manager, Miles Hanberg, at (435) 247-1557 if you have any questions.

Please contact our office at (801) 538-4759 if you require further assistance.

Sincerely,

Sarah Lindsey

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Miles Hanberg