BUREAU OF RECLAMATION

Peoa South Bench Canal Piping & Metering Project, Final Environmental Assessment and Finding of No Significant Impact

Summit County, Utah

PRO-EA-19-004
Interior Region 7 – Upper Colorado Basin
Provo Area Office
Provo, Utah

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

FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment Peoa South Bench Canal Piping & Metering
Summit County, Utah

EA-19-004

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I. Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Reclamation, Provo Area Office (Reclamation) has conducted an Environmental Assessment (EA; attached) to determine the potential effects to the human and natural environment of approving the use of federal funds for the Peoa South Bench Canal Piping & Metering Project (Project). Under the Proposed Action, Reclamation would authorize the use of federal funds to be used for piping the South Bench Canal and installing meters.

A draft EA was published prior to issuing the final EA and this Finding of No Significant Impact (FONSI). A 14-day comment period was conducted for the draft EA. Seven comments received on the draft EA and responses to those comments are in Appendix E of the final EA.

II. Alternatives

The EA analyzed two alternatives: the No Action and the Proposed Action.

No Action

Under the No Action Alternative, Reclamation would not authorize federal funds be used for the piping and metering project. Losses to seepage and evaporation from the canal would continue and the residential system would continue to be unmetered.

Proposed Action

Under the Proposed Action, Reclamation would authorize federal funds for the following modifications: piping 3.74 miles of the South Bench Canal along a modified alignment; installing a fish-friendly screen, supervisory control and data acquisition (SCADA) system, and system meter; and installing a micro-hydropower system to provide necessary power. Chapter 2 of the final EA describes the Proposed Action in detail.

III. Environmental Commitments

The commitments found in chapter 5 of the final EA are incorporated into this FONSI by reference and considered part of the Proposed Action. The environmental commitments must be implemented as outlined in the final EA.

IV. Summary of Impacts

Chapter 3 outlines the anticipated impacts of the Proposed Action. A total of 17 resources were initially considered, but five were eliminated from detailed analysis in order to limit the discussion to potentially significant issues. The remaining twelve resources were analyzed in detail under the No Action and Proposed Action alternatives. Based on that analysis, there would be no significant effects on any of the 12 resources were identified, including Indian Trust Assets and Environmental Justice.

V. Finding of No Significant Impact

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

VI. Decision

The Proposed Action, to authorize federal funds to be used for the South Bench Canal Piping & Metering Project, will not significantly affect the human or natural environment as summarized above. Furthermore, the Proposed Action meets the purpose and need of the Project. The No Action alternative does not meet the purpose or need for the Project. Based on the lack of significant effects to the human environment and because the Proposed Action meets the purpose and need of the Project while the No Action alternative does not, it is Reclamation's decision, therefore, to implement the Proposed Action as described in the attached EA.

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1 Introduction

1.1 Background

This Environmental Assessment (EA) was prepared to examine the potential environmental impacts of the South Bench Canal System Piping & Metering Project, proposed by the Peoa South Bench Canal & Irrigation Company (South Bench) in Summit County, Utah. If approved, approximately 3.74-miles of the existing canal would be piped along a modified alignment to reduce seepage and increase the efficiency of irrigation. A fish-friendly screen, supervisory control and data acquisition (SCADA) system, system meter, a micro-hydropower system to provide necessary power, and individual meters for shareholders at points along the pipeline would be installed.

South Bench manages the South Bench Canal (canal) which has been used to supply irrigation water from the Weber River to users in Oakley and unincorporated areas of Summit County, Utah (See Figure 1-1 Project Overview Map). Water rights from the Weber River were originally obtained by South Bench in 1879. South Bench currently has 28 shareholders that irrigate approximately 756 acres. The canal system is comprised of a series of open, unlined ditches that meander through rural and residential areas of Oakley. The diversion system currently uses a series of actuated gates at a control structure located approximately 450 feet from the diversion from the Weber River.

Water is diverted from the Weber River into the canal approximately 1.5-miles upstream of where Utah State Route 32 crosses over the Weber River. Independent studies conducted in 2017 by the U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) and J-U-B Engineers, Inc. (JUB) found that water loss from the canal due to seepage was 48% and 45%, respectively. In that same year, South Bench diverted approximately 5,477 acre-feet (ac-ft) of water to its users; of which approximately 48%, or 2,629 ac-ft, was lost to seepage.

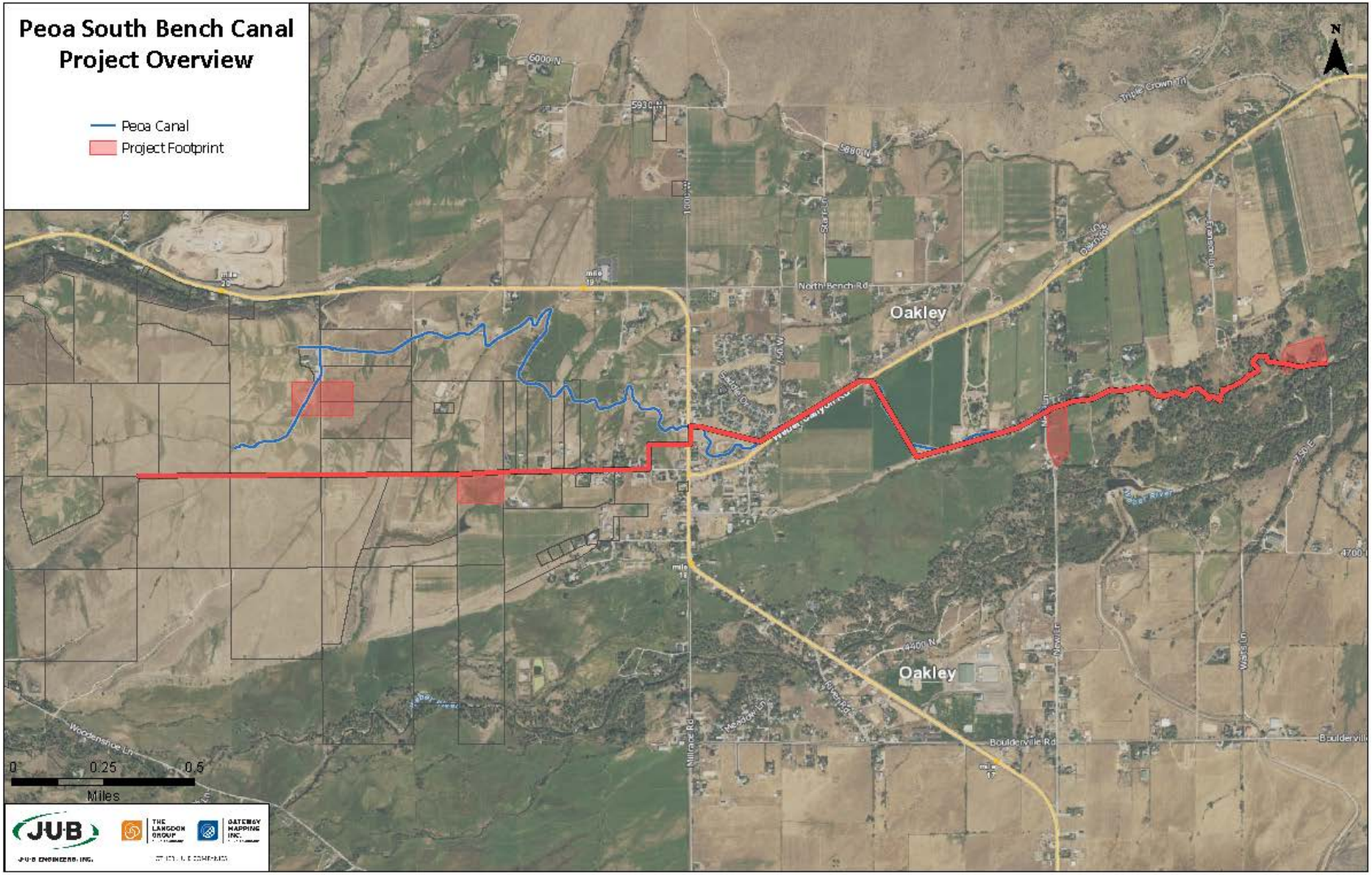

Figure 1-1 Project Overview Map

Reclamation prepared this EA to comply with procedural requirements of the National Environmental Policy Act of 1969 (NEPA) and regulations outlined by the Council on Environmental Quality and Department of the Interior. This EA analyzes the potential impacts of the Proposed Action in comparison with the No Action Alternative. Under the No Action Alternative, the South Bench Canal would remain unchanged. As required by the NEPA implementing regulations, if significant impacts to the human environment are identified, an Environmental Impact Statement will be prepared. If no significant impacts are identified, Reclamation will issue a Finding of No Significant Impact (FONSI).

1.2 Statement of Purpose and Need

Reclamation's action is needed in response to South Bench's proposed Project being awarded federal funds through the WaterSMART program.

The purpose of the Proposed Action is to provide and incentivize pressurized irrigation to shareholders to allow for the transition from flood irrigation to sprinkler irrigation, reduce seepage, and improve efficiency. The project is needed because of the existing water loss along the canal and overuse from flood irrigation.

Of the 5,477 ac-ft diverted in 2017, USDA-NRCS determined approximately 2,629 ac-ft was lost to seepage, leaving approximately 2,848 ac-ft being delivered to the shareholders (USDA NRCS, 2017). Piping and pressurizing the system would conserve the entire 2,629 ac-ft lost to seepage. An indirect benefit of the pressurized irrigation line would be the ability of shareholders to pursue funding opportunities for on-farm improvements, including sprinkler irrigation systems that improve water use efficiency. Of the 780-acres currently irrigated, only 138-acres are sprinkler irrigated. The majority of South Bench's shareholders elect to flood irrigate due to the high cost of installing and operating pumps to supply adequate pressure for sprinkler irrigation systems. Flood irrigation efficiency is approximately 50%, whereas sprinkler irrigation efficiency is approximately 75%. The conversion from the existing flood irrigation practices to sprinkler irrigation would conserve an additional 570 ac-ft of water per year (See Table 1-1). Additionally, flood irrigation contributes to degraded water quality through agricultural runoff and nutrient loading of receiving water bodies. Sprinkler irrigation systems would improve downstream water quality in the Weber River Drainage by reducing agricultural runoff.

Table 1-1 2017 Irrigation Inefficiencies & Post-project Irrigation Savings

Annual Volume Diverted	5,477 ac-ft
Annual Volume Lost to Seepage	2,629 ac-ft
Annual Volume Delivered	2,848 ac-ft
Assumed Flood Irrigation Efficiency	50%
Assumed Sprinkler Irrigation Efficiency	75%
Assumed Increase in Irrigation Efficiency	25%
Total Acres Irrigated	697 Acres
Total Acres Flood Irrigated	559 Acres
Percent Acres Flood Irrigated	80%
Water Loss to Inefficient Application[1]	570 ac-ft
Post-project Annual Irrigation Savings	**570 ac-ft**

[1] 2,848 ac-ft x 80% x 25%

The Proposed Project would conserve 2,629 ac-ft of water from seepage and an additional 570 ac-ft when users transition to sprinkler irrigation.

1.3 Federal Decision

The federal decision to be made is whether Reclamation should authorize the use of federal funds for the Proposed Action (described in section 2.3).

1.4 Permits and Authorizations

Implementation of the Proposed Action may require a number of authorizations or permits from state and Federal agencies. Reclamation (or its contractor) would be responsible for obtaining all permits and authorizations required for the Project. Potential authorizations or permits may include those listed in Table 1-2.

Table 1-2 List of Permits and/or Authorizations for the Proposed Project

Agency/Department	**Purpose**
Utah Division of Water Quality	Utah Pollution Discharge Elimination System (UPDES) Permit for dewatering.
Utah Division of Water Quality	Section 402 of the Clean Water Act (CWA) if water is to be discharged as a point source into the Weber River or other natural streams or creeks.
Utah State Historic Preservation Office	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470
United States Army Corps of Engineers (USACE)	A USACE permit, in compliance with Section 404 of the CWA, would be required prior to

Agency/Department	Purpose
	the discharge of dredged or fill material into "waters of the United States". A stream alteration permit would not be required as there is no work planned at the diversion structure or within 30-feet of the river.
Summit County Conditional Use Permit	The County requires a conditional use permit for any pipe over 16-inches in diameter.
Summit County Excavation Permit	The County Engineer requires this permit for any construction within the county.
Oakley City Extraction Permit	Oakley City Public Works requires this permit for any construction within the city.

2 Alternatives

2.1 Introduction

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

2.2 No Action

Under the No Action Alternative, the South Bench Canal would not be converted to a pressurized pipeline. Water lost to seepage throughout the canal would continue. Shareholders would continue to flood irrigate rather than switching to sprinkler irrigation as flood irrigation would continue to be the most economical method of irrigating crops. Flood irrigation would continue to contribute to degraded water quality in the Weber River drainage.

2.3 Proposed Action (Preferred Alternative)

The Proposed Action combines the components of two WaterSMART applications: one for piping the canal and its associated components, and one for new metering along the water delivery system. The Proposed Action consists of piping 3.74 miles of the canal along a modified alignment. A fish-friendly screen, supervisory control and data acquisition (SCADA) system, and system meter would be installed, as well as a micro-hydropower system to provide necessary power.

The main pipeline would consist of 32-inch diameter high-density polyethylene (HDPE) and 27-inch polyvinyl chloride (PVC). The micro-hydropower unit and screen would be installed in the same

location as the existing control structure, located approximately 450 feet from the diversion structure. The existing control structure would be removed. The pipeline would follow a new alignment and would bypass the Oakley Parshall Flume, located approximately 250 feet from the control structure. The Oakley Parshall Flume would be abandoned. The pipe would be installed in the existing canal alignment for approximately 1.6 miles and then would follow a new alignment for approximately 2.14 miles (see Figure 2-1 Proposed Action). The new alignment would travel in a straight line following existing property lines, fence lines, and existing roads where possible, thus reducing the length of pipe and impacts to farmable land. The new alignment would deliver water to a more centralized location relative to the land being irrigated.

The Proposed Action would install flow meters and remote telemetry units (RTUs) at locations along the main pipeline and on individual laterals (see Figure 2-1 Proposed Action Proposed Action). RTUs will be located at diversion points on the main pipeline and will connect to, and provide data from, approximately 3 or 4 meters. South Bench will be able to collect water use data, including monitoring daily use and storing up to three years of data. South Bench will have access to live and stored data in order to provide monthly water use reports to its shareholders. A meter would also be installed at the control structure to account for the volume of water diverted from the Weber River and establish a baseline for shareholder use. There would be flow meters and RTUs installed at proposed locations indicated in Figure 2-1. Other than individual meters and RTUs, on-farm improvements and lateral improvements are not included under the Proposed Action.

The Proposed Action Area (Action Area) is defined as a 50-foot wide by 4-mile long linear corridor, staging areas, and the area around the existing control structure where a system meter and micro-hydropower unit would be installed (see Figure 2-1 Proposed Action).

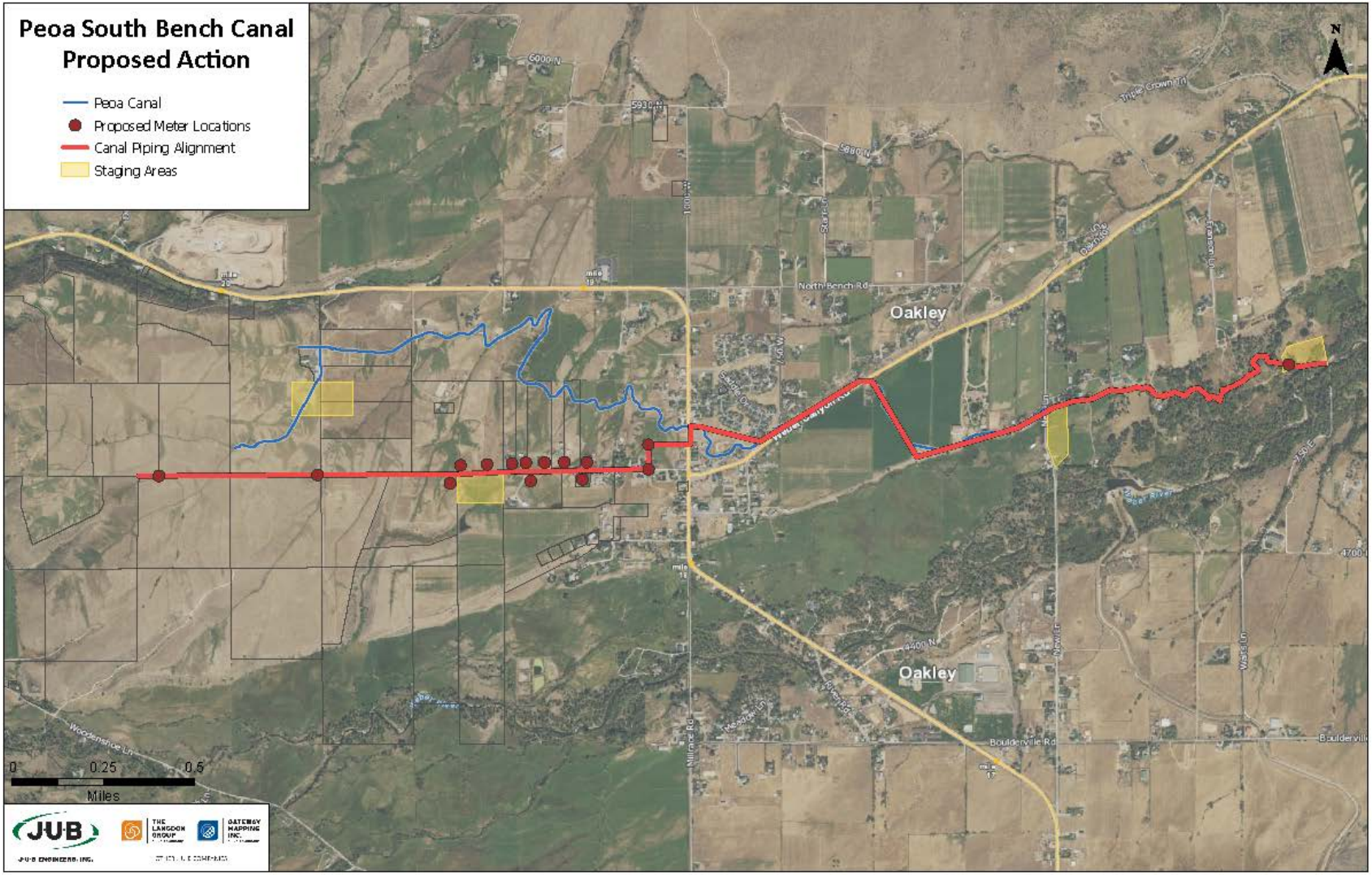

Figure 2-1 Proposed Action

2.3.1 Project Activity Procedures

Construction of the Proposed Action is scheduled to start in late fall 2020. Construction would continue through the winter months and would be completed in 2021. The following sections outline planned construction activities for the Proposed Action.

2.3.2.1 Staging and Access

Staging areas and access roads for equipment would be required to access much of the pipeline alignment. Staging areas and temporary access roads have been identified and are included in the project footprint (Figure 2-1).

2.3.2.2 Micro Hydro System and SCADA Installation

The micro-hydro underwater turbine would be installed at the existing control structure location to generate electricity that would power the SCADA system. The control structure would be removed.

2.3.2.3 Meters and RTUs Installation

System meters would be installed at the control structure and on the main pipeline to account for the volume of water diverted from the Weber River and establish a baseline for shareholder use. There would be a total of approximately 39 flow meters and 11 RTUs installed, the remainder of which would be installed at proposed locations along the main pipeline where laterals would be installed. Meters and RTUs are installed in-line and are a component of the actual pipeline footprint.

2.3.2.4 Excavation, Trenching, and Backfilling

The Proposed Action would require widening and/or deepening the existing canal where the pipeline alignment would travel within the existing canal. Preparation of the existing canal would require debris and soil removal from sections of the alignment to accommodate setting and backfilling the pipeline. In sections of the alignment where the pipeline would be placed in the existing canal, the canal would be backfilled and graded to match surrounding grade. Where the modified alignment deviates from the existing canal, trenching activities would be required to place the pipeline. The trenches would be backfilled and graded, and the area would be restored to pre-construction conditions. In sections of the modified alignment where the pipeline deviates from the existing canal, the existing canal would be left in place.

2.3.2.5 Vegetation Seeding, Establishment, and Monitoring

Vegetation establishment would be required following trenching, backfilling, and grading activities. All disturbed construction areas, staging areas, and temporary access roads would be seeded with an approved native seed mix or agricultural crop, where appropriate.

2.4 Alternatives Considered and Eliminated from Further Study

The following alternatives were evaluated but eliminated because they would not successfully meet the need for the project or were more expensive than the Proposed Action.

2.4.1 Membrane Lining

This alternative would line the canal with an impermeable membrane to prevent seepage. Under this alternative, the canal alignment would remain unchanged. This alternative does not meet the

purpose of the Project because it would keep the water in an open environment, thus allowing evaporation loss from the canal, and debris and livestock to continue to enter the canal. Additionally, this alternative would disincentivize shareholders to transition from flood irrigation to sprinkler irrigation due to costs associated with procuring, operating, and maintaining pumps. Furthermore, this alternative is likely to continue to contribute to degraded water quality in the Weber River due to flood irrigation practices. For these reasons, this alternative was eliminated for further analysis.

2.4.2 Pipe the Canal in its Existing Alignment

This alternative would pipe the entire length of the canal along its existing alignment. HDPE pipe would be used to deflect without the need for fabricated joints. This alternative would achieve the same purpose and need for the Project; however, the cost of this alternative is significantly higher than the Proposed Action. This alternative would require approximately 1,740 feet of additional pipe and the water would not be delivered to a more central location. For these reasons, this alternative was eliminated for further analysis.

2.4.3 Pipe Ends After Crossing State Route 32

This alternative would follow the existing canal alignment for the first 1.6 miles. After crossing Utah State Route 32, the pipeline would end, and the water would be discharged back into the existing canal. The pipeline would be pressurized and would require an energy dissipater prior to discharging into the canal. A portion of the canal would remain unlined and continue to lose water to seepage. This alternative does not meet the purpose and need of the Project because it would not fully address the seepage issues and it would disincentivize shareholders to transition to sprinkler irrigation. For this reason, this alternative was eliminated for further analysis.

3 Affected Environment and Environmental Consequences

This chapter describes the environment that could be affected by the Proposed Action, including those that were considered but eliminated from detailed study. For those resources that were analyzed in detail, the present condition or characteristics of each resource are discussed first, followed by a discussion of the predicted impacts caused by the No Action and the Proposed Action.

3.1 Resources Considered but Eliminated from Detailed Analysis

The following resources were considered but eliminated from further analysis because they did not occur in the Project area or because their effect is so minor (negligible) that it was discounted (Table 3-1).

Table 3-1 Resources Considered but Eliminated from Detailed Analysis

Resource	Rationale for Considering but Eliminating from Detailed Analysis
Wild and Scenic Rivers	There are no Wild and Scenic Rivers near the Action Area; therefore, there would be no impact to these resources from the Proposed Action.
Grazing	There is no grazing in the Action Area; therefore, there would be no impact to these resources from the Proposed Action.
Paleontological	According to Utah Geological Survey, there are no paleontological localities recorded in the Action Area and Quaternary and Recent alluvial deposits that are exposed in the survey area have a low potential for yielding significant fossil localities (see Appendix A). Therefore, there would be no effect to paleontological resources.
Water rights	No water rights would be affected by the Proposed Action because 1) no changes to the South Bench's rights are planned (i.e., no changes in point of diversion or quantity diverted), and 2) water deliveries would continue under Utah's priority system.
Visual Resources	There are no visual resources that would be impacted by the Proposed Action. Construction of the Project would be consistent with general construction and agricultural activities in the area. There would be no long-term visual impacts under the Proposed Action because the pipeline would be backfilled to match surrounding grade. This resource was eliminated from detailed analysis because there are no significant visual resources in the Action Area and because there would be no impacts to visual resources.

3.2 Geology and Soils

According to the NRCS Web Soil Survey, the soils in the Action Area are primarily comprised of clay to very cobbly loams with slopes ranging from 1-60 percent (%) (USDA NRCS, 2019). Most of the soils within the Action Area have a low runoff class rating. A few areas, particularly on steep slopes (30 to 60% slopes) within the Action Area, have high to very high runoff class ratings. The composition of soils in the Action Area is detailed in Table 3-2, and the complete soil survey is available as an attachment to Appendix C - Water Resource Assessment.

Table 3-2 Composition of Soils within the Action Area

Soil Type	Percent of Action Area
Echocreek loam, 2 to 10% slopes	22.5
Horrocks-Hades complex, 30 to 60% slopes	1.6
Manila-Ant Flat loams, 2 to 8% slopes	33.3
Snyderville cobbly loam, 1 to 5% slopes	<0.1
Wanship-Kovich loams, 0 to 3% slopes	33.6
Yeates Hollow-Henefer complex, 30 to 60% slopes	8.9

3.2.1 Impacts on Geology and Soils

3.2.1.1 *No Action*
Under the No Action Alternative, soil erosion would continue in the canal at the current rate.

3.2.1.2 *Proposed Action*
Under the Proposed Action Alternative, the existing canal would be backfilled after the new pipe is installed. 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. Following installation of the pipe in the canal, the canal would be contoured and graded to match surrounding grade and minimize erosion. Disturbed areas would be restored, and the Action Area would return to previous conditions. The Proposed Action Alternative would have no long-term, negative impacts on soil and erosion in the Action Area.

3.3 Prime and Unique Farmlands

The Action Area is comprised of agricultural and rural land use. A review of NRCS's Soil Survey indicates that the Action Area contains a mix of agricultural soils including those designated as prime farmland if irrigated and farmland of statewide importance. Additional information regarding farmland is available in the soil survey report provided as an attachment to Appendix C.

3.3.1 Impacts on Prime and Unique Farmlands

3.3.1.1 *No Action*
Under the No Action Alternative, water users would likely continue to flood irrigate which would cause erosion of the topsoil. Long-term effects of the No Action Alternative may result in crop producers using additional fertilizer to maximize yield during a shorter growing season if water availability becomes scarce. Lack of water may reduce the irrigation season and lower crop yields.

3.3.1.2 *Proposed Action*
A review of the NRCS Soil Survey indicates that there is prime farmland if irrigated and farmland of statewide importance in the Action Area. Construction activities would be conducted within portions of the existing canal alignment and along a modified alignment that would reduce the length of pipe required and position the water in a more central location for shareholders. Construction within the existing canal alignment would be in previously disturbed land not currently used for agricultural production. The entire new pipeline alignment would be backfilled and contoured to match existing grade. Impacts on prime and unique farmland include temporary ground disturbance during construction for excavation and installation of the pipeline. Impacts would be minimized by installing the pipeline along existing property lines and fence lines, minimizing the impact to farmable land. Following construction, disturbed areas would be backfilled and returned to pre-construction conditions. All disturbed areas would be revegetated with an approved native seed mix or agricultural crop, where applicable. Impacts to farmland would be minimal, no existing farmland would be converted to non-agricultural uses and the Proposed Action would not preclude future farming activities within the Action Area.

3.4 Recreation

Recreation opportunities within the Action Area include angling and swimming within the Weber River, an equestrian and walking path on the Franson Lane Trail which crosses the canal alignment, and activities on Cottonwood Lane, Weber Canyon Road, and State Route 32 where the canal crosses these public roads. Rockport and Echo Reservoirs, the receiving water bodies of the Weber River approximately 5.5 and 16 miles northeast and downstream of the Action Area, respectively, provide various recreational opportunities year-round. Fish Lake, located approximately 17-miles east of the head of the canal, is the storage facility for South Bench's water rights. It also provides public access for angling opportunities. Conflicts have occurred between anglers and shareholders regarding water levels in Fish Lake, particularly late in the growing season and during years of drought. Irrigation demands can lower the water level in Fish Lake to a level that impacts fish habitat. Anglers have damaged headgate structures at Fish Lake to reduce the amount of water released from the reservoir to prevent further habitat elimination from the lake.

3.4.1 Impacts on Recreation

3.4.1.1 *No Action*

The No Action Alternative would affect recreation in the Weber River downstream of the Action Area and its receiving water bodies as water quality in the river continues to be degraded due to flood irrigation and agricultural runoff. Degraded water quality can contribute to degraded aquatic habitat and reduce fish populations and may impact human health if levels of exceed total daily maximum load (TMDL) levels of nitrogen and phosphorous. The No Action Alternative would also continue to impact angling opportunities and fish habitat in Fish Lake when additional water is released to supply South Bench's shareholders with additional irrigation, particularly during periods of drought. The No Action Alternative would have no effect on recreation opportunities within terrestrial recreation resources within the Action Area.

3.4.1.2 *Proposed Action*

The Proposed Action Alternative would improve water quality and may indirectly affect recreational opportunities within the Weber River and its receiving bodies downstream of the Action Area by reducing flood irrigation and agricultural runoff. The Proposed Action Alternative would also reduce conflict between shareholders and anglers at Fish Lake by reducing water loss in the canal, thereby conserving water and reducing the need for additional water for irrigation needs. This would reduce the annual drawdown rates at the lake.

The Proposed Action Alternative would temporarily impact terrestrial recreation opportunities on the Franson Lane Trail, Cottonwood Lane, Weber Canyon Road, and Utah State Route 32 as construction personnel and equipment install the pipe. These impacts would be localized to four locations along the alignment and would be during construction only. There are abundant recreation opportunities in the areas surrounding the Action Area. For these reasons, the Proposed Action would be anticipated to have temporary, minor impacts to recreation.

3.5 Health, Safety, Air Quality, Noise

Health and Safety
The Action Area is located in a rural and agricultural area of Summit County, Utah. Safety concerns in the area are generally related to traffic along the town's roadways and open water along the canal. There are no other known public safety or public health concerns in the Action Area.

Public safety resources in the general vicinity of the Action Area include the Summit County Sheriff's Office, which is located in Park City, Utah approximately 10 miles west of the Action Area. The South Summit Fire District is located in Oakley, Utah on State Route 32 immediately adjacent to the new pipeline alignment.

Air Quality
Air quality in the Action Area is regulated by the U.S. Environmental Protection Agency (USEPA) and the Utah Division of Air Quality (UDAQ). The National Ambient Air Quality Standards (NAAQS) established by the USEPA under the Clean Air Act (CAA) specify limits of criteria air pollutants which include carbon monoxide, particulate matter (PM_{10} and $PM_{2.5}$), ozone, sulfur dioxide, lead, and nitrogen dioxide. If levels of a criteria pollutant in an area are higher than the NAAQS, the area is designated as a "nonattainment area." Areas that meet the NAAQS for criteria pollutants are designated as "attainment areas." The Action Area is located in Summit County which is in attainment for all criteria pollutants.

Noise
Ambient noise within the Action Area includes a combination of natural sounds (wind, running water, birds, and insect calls) and mechanical sounds (vehicle traffic, farm equipment, etc.). In general noise levels are consistent with rural communities, likely averaging from 42 to 65 dBA based on the proximity to roadways that cross through portions of the Action Area.

3.5.1 Impacts on Health, Safety, Air Quality, Noise

3.5.1.1 *No Action*
Existing public health, safety, air quality, and noise conditions in the Action Area would be maintained under the No Action Alternative. Therefore, the No Action Alternative would have no effect on public health, safety, air quality, or noise.

3.5.1.2 *Proposed Action*
Public safety may be impacted during construction from the presence of construction workers and additional traffic. Crews would use public roads only when necessary. The number of total construction workers would be limited as the Proposed Action scope only requires basic equipment and staff to complete the installation of the pipe and associated infrastructure. This impact would be minor and temporary. Emergency dispatch services, including local fire and sheriff departments, would not be impacted by the Proposed Action. Although temporary road closures are not anticipated, any temporary road detours or access closures would be coordinated with local law enforcement and emergency services. Public safety would be increased by piping the canal because it reduces the amount of open water in the Action Area.

The Proposed Action would have short-term noise and air quality impacts during active construction. Noise levels would be elevated during construction, but no new noise sources would be generated from the Proposed Action after construction. Air quality impacts from land disturbance activities such as excavation and grading of soils along the pipeline 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.

The proposed pipeline would be a pressurized system and would not require the use of pumps or alternate power sources. The micro-hydro station that would be installed at the head of the canal would not create any new emissions sources.

3.6 Water Quality

The South Bench Canal is classified as a Class 4 waterway by the Utah Division of Water Quality (UDWQ) (UDWQ, 2020). Class 4 waterways are protected for agricultural uses including irrigation of crops and stock watering (UDWQ, 2018).

The Weber River below Echo Reservoir is classified for the following beneficial uses:

> Class 1C – Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.
> Class 2A – Protected for primary contact recreation such as swimming.
> Class 2B – Protected for secondary contact recreation such as boating, wading, or similar uses.
> Class 3A – Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
> Class 4 – Protected for agricultural uses including irrigation of crops and stock watering.

Pollutants impair the use of water, and when determined to exist, a study is required by the Utah Department of Water Quality to determine how to reduce pollutants and restore water quality. This study is called a Total Maximum Daily Load (TMDL). A TMDL establishes the maximum amount of a pollutant allowed in the water while maintaining all of its designated beneficial uses. There are currently no known pollutants and no determined TMDL in the Weber River near the Action Area. The canal currently contributes to sediment transport to the Weber River.

3.6.1 Impacts on Water Quality

3.6.1.1 *No Action*

Under the No Action Alternative sediment loads from the unlined canal would continue to contribute to degraded water quality in the area. The sediment would continue to travel to Weber River and may cause long-term minor to moderate adverse impacts to water quality of the river.

3.6.1.2 *Proposed Action*

The Proposed Action Alternative would reduce erosion and sediment transport along the canal because the canal would be piped. The reduced sediment load would improve downstream water

quality within the Weber River basin. Indirect benefits of piping and pressurizing the canal would allow agricultural producers to transition to sprinkler irrigation, which would conserve up to an additional 570 ac-ft of annual irrigation water and contribute to improved downstream water quality in the Weber River.

3.7 Hydrology

The Action Area is located in the Upper Weber Watershed, which covers approximately 1,148 square miles (USDA NRCS, 2007). Major water resources in the Upper Weber Watershed include the Weber River, its tributaries and several reservoirs including Echo and Rockport Reservoirs. The Weber River originates in the Uinta Mountains east of the Action Area and is a major source of irrigation for agriculture in Summit, Morgan, Davis, and Weber Counties in Utah. The Weber River runs through Peoa and is the primary source of water for the South Bench Canal. The canal receives supplemental hydrology in the form of runoff from adjacent hillsides and other higher elevations. There are no other water resources in or directly adjacent to the Action Area.

3.7.1 Impacts on Hydrology

3.7.1.1 *No Action*

The hydrology in the Action Area would remain unaltered in its current state under the No Action Alternative. A greater demand for water from the natural hydrologic resources in the area may be required as seepage and operational losses continue in the canal.

3.7.1.2 *Proposed Action*

The Proposed Action Alternative would eliminate seepage from the canal and increase the efficiency of water delivery to shareholders. This would eliminate an annual loss to seepage of approximately 2,629 ac-ft from the canal, increase water availability for agricultural use, could benefit agricultural producers in the area from increased crop yields, and would reduce the amount of water diverted from the Weber River. Water that is diverted and not used in the system is returned to the Weber River downstream.

3.8 Wetlands and Riparian Resources

Vegetation within the Action Area is a mix of upland, agricultural, invasive and wetland species. The vegetation along the canal is primarily dominated by reed canarygrass (*Phalaris arundinacea*), Johnsongrass (*Sorghum halepense*), orchardgrass (*Dactylis glomerate*), Russian olive (*Eleagnus angustifolia*), willow (*Salix* sp.), and boxelder maple (*Acer negundo*). Staging areas are dominated by weedy, upland and agricultural species such as alfalfa (*Medicago sativa*), field bindweed (*Convovulus arvensis*), and ornamental grasses.

The USFWS National Wetland Inventory (NWI) database was consulted to evaluate the potential presence of wetland features in the vicinity of the Action Area (USFWS, 2020b). A field survey was performed by a qualified wetland scientist on October 16, 2019 and on April 28, 2020. The NWI map, found in Appendix C, and the information obtained during the field assessment indicates that

an upper perennial stream (Weber River) is adjacent to the Action Area, and the South Bench Canal is within the Action Area. Hydrophytic vegetation was present along portions of the canal banks, however, no hydric soil indicators were found. No wetlands or other Waters of the U.S. were identified within the Action Area.

3.8.1 Impacts on Wetlands and Riparian Resources

3.8.1.1 *No Action*

The existing vegetation in the Action 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 vegetation that exists along the canal. Therefore, the No Action Alternative may result in a minor impact to vegetation in the Action Area. No wetlands are present in the Action Area; therefore, the No Action Alternative would have no effect on wetlands.

3.8.1.2 *Proposed Action*

Under the Proposed Action, irrigation-induced hydrophytic vegetation along the canal's alignment would be permanently impacted by piping and pressurizing the canal. No wetlands or riparian areas are present in the Action Area. Therefore, the Proposed Action would have no effect on wetlands or riparian areas. The portion of the canal that will be abandoned would be subject to new vegetation growth, likely with native plants and crops from adjacent growth and would be maintained by South Bench and private property owners.

3.9 Threatened, Endangered, and Sensitive Species

The USFWS Information for Planning and Consultation (IPaC) report dated May 27, 2020 identified two (2) species listed as threatened under the Endangered Species Act (ESA) that may occur within the Action Area, Canada lynx (*Lynx canadensis*) and yellow-billed cuckoo (*Coccyzus americanus*; Appendix E – Biological Evaluation) (USFWS, Information for Planning and Consultation Database, 2020). These species and the status of documented occurrences in the Action Area are detailed in Table 3-3.

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

Species	ESA Status	Documented Occurrence in Action Area	Suitable Habitat in the Action Area
Canada lynx *Lynx canadensis*	Threatened	No	No
Yellow-billed Cuckoo *Coccyzus americanus*	Threatened	No	No

The UDWR Natural Heritage Program maintains a central database for Species of Concern in Utah. The Natural Heritage Program database was queried on October 14, 2019 and identified three (3) state sensitive species managed under conservation agreements potentially occurring within a 2-mile radius of the Action Area: the Bonneville cutthroat trout, bluehead sucker, and Columbia spotted

frog (UDWR, 2020a). The report also reported greater sage-grouse occurrences within a 2-mile radius of the Action Area. The Natural Heritage Program database did not identify any ESA-listed species occurring within 2-miles of the Action Area.

Field surveys of the Action Area were conducted by a qualified biologist with JUB on October 16, 2019 and on April 28, 2020 to identify potential habitat within, and adjacent to, the Action Area for ESA-listed and state sensitive species. Information obtained during these survey efforts indicate that there is no suitable habitat for the ESA-listed species within the Action Area. It is likely that Bonneville cutthroat trout and bluehead sucker are present in the Weber River channel, however, suitable habitat for these species does not exist within the canal alignment. The survey identified the best available habitat for Columbia spotted frogs within the eastern half of the canal alignment. However, this area is actively disturbed by agricultural and residential activities, and there are no isolated lakes, ponds, floating vegetation, persistent springs, or backwater areas that would provide suitable habitat for Columbia spotted frogs. The canal is seasonally filled during the growing season and would not provide suitable habitat for Columbia spotted frogs outside of the irrigation season when the canal is dry. Details regarding threatened, endangered, and sensitive species are presented in Appendix B.

3.9.1 Ute Ladies'-tresses

Ute ladies' -tresses (ULTs) (*spiranthes diluvialis*) is a rare species of orchid native to the western United States and Canada, where there are scattered, mostly small occurrences in the U.S. states of Colorado, Idaho, Montana, Nebraska, Nevada, Utah, Washington, and Wyoming, and two Canadian provinces. Of note, ULTs are not identified as a species of concern in Summit County by the USFWS IPaC system as of October 8, 2020. The species was identified to be present in Summit County during this survey season and USFWS is working to update the information in the IPaC system to reflect this change.

Based on the water resource assessment provided in Appendix C, areas along the canal are dominated by reed canary grass, orchard grass, Johnson grass, and woody species which are indicators that no suitable habitat for ULTs is present. In addition, the assessment did not identify hydric soils present in the action area, which are necessary to support ULTs. The USFWS concurred with Reclamation that suitable habitat for ULTs is not present in the Action Area and therefore there would be no effect to ULTs (see consultation with USFWS in Appendix D).

3.9.2 Impacts on Threatened, Endangered, and Sensitive Species

3.9.2.1 *No Action*

Sediment and agricultural runoff would continue to impact the Weber River at current rates which would impact water quality within the river and receiving water bodies, thereby impacting aquatic species inhabiting the river. No additional impacts to threatened, endangered, and state sensitive species would be expected to occur as a result of the No Action Alternative.

3.9.2.2 *Proposed Action*

The Action Area does not contain suitable habitat for threatened, endangered, and state sensitive species and occurrences of these species would not be anticipated. Construction activities have the potential to impact water quality in the Weber River and BMPs would be implemented to minimize these impacts. Construction would be timed outside of the irrigation season when the canal is dry.

Vegetation removal would be conducted in areas along the modified alignment outside of the typical nesting season for migratory birds. The Proposed Action would improve the diversion structure on the Weber River by installing a fish screen to prevent fish and other aquatic species including Bonneville cutthroat trout, bluehead sucker, and Columbia spotted frog from entering the canal system. The Proposed Action would be anticipated to have no effect on ESA-listed or state sensitive species.

3.10 Socioeconomics

Information obtained from the 2018 American Community 5-year Survey indicates that Oakley City and Peoa Census Designated Place (Peoa) combined have an estimated total population of 1,699 individuals (U.S. Census Bureau, 2018). Approximately 6.3% of the residents' incomes were below the poverty level. There were 641 households in the Peoa area, of which 68.8 % consisted of families. 20.6% of the households had one or more people under the age of 18, and 27.4% of the households had one or more people 65 years and over.

Approximately, 96% of people 25 years and over had at least graduated from high school, and 37.8% had a bachelor's degree or higher. An estimated 4.2% did not complete high school. The total school enrollment was 330 students. Nursery school enrollment was 4, and kindergarten through 12th grade enrollment was 274 students. College or graduate school enrollment was 52.

Approximately, 65% of the population age 16 years and older in Oakley and Peoa were employed; 34.8% were not currently in the labor force. An estimated 80.7% of the people employed were private wage and salary workers; 15.6% were federal, state, or local government workers.

In 2014-2018, the majority of the civilian employed population 16 years and older in Oakley and Peoa worked in educational services, health care and social assistance (24.6%); and, arts, entertainment, recreation and accommodation, and food service (22.75%). The median household income was estimated to be $68,050.

3.10.1 Impacts on Socioeconomics

3.10.1.1 *No Action*

Under the No Action Alternative, seepage and water loss from the canal would continue to affect agricultural producers. Water shortages would reduce crop yield, resulting in continued economic losses to shareholders. Without piping the canal, irrigation would not transition from flood irrigation to sprinkler irrigation, and irrigation could become inconsistent, especially during drought years. The area would likely need more stringent water restrictions to meet agricultural and residential demands, and overall, the No Action Alternative would be anticipated to have a negative impact on socioeconomics in the Action Area.

3.10.1.2 *Proposed Action*

The Proposed Action Alternative would help eliminate water losses due to seepage, which in turn would increase the overall availability of water for agricultural producers and residential users. The potential to convert to sprinkler irrigation would allow for more regulated, consistent water use. Water users may be able to better plan and improve crop yield, especially during drought years. This

would likely minimize economic losses to these water users and others that benefit from the industry in this area. Overall, the Proposed Action would be anticipated to result in a net benefit to socioeconomics within the Action Area.

3.11 Cultural Resources

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

Certus Environmental Solutions, LLC (Certus) conducted an online file search and a pedestrian level field survey for cultural resources in the Area of Potential Effect (APE). The APE is defined as the same area as the Action Area, including the following elements: a 4-mile long linear corridor, staging areas, and an area for a proposed screening structure, system meter, and micro-hydropower unit.

The online file search was completed for an area extending ½-mile from the APE. Three archaeological sites were previously identified in the search area: Peoa North Bench Canal, Peoa South Bench Canal, and the Marion Lower Ditch.

The field survey identified one site, the Peoa South Bench Canal, in the APE. The Peoa South Bench Canal was previously determined eligible for listing on the National Register of Historic Places (NRHP).

3.11.1 Impacts on Cultural Resources

3.11.1.1 *No Action*

Under the No Action Alternative, there would be no anticipated impacts to cultural resources. There would be no need for ground disturbance for pipe installation. The existing conditions would remain intact and would not be affected.

3.11.1.2 *Proposed Action*

Under the Proposed Action Alternative, the existing Peoa South Bench Canal would be abandoned and reclaimed except for a section that would be piped and pressurized as part of the new alignment. This action would erase the visibility traces of the canal and would constitute an adverse effect to the canal's integrity. Consequently, should the project be approved, mitigation for the adverse effect to the canal would be required under the National Historic Preservation Act and in consultation with the State Historic Preservation Officer (SHPO). Reclamation determined that the proposed action would harm this historic property, and SHPO concurred with that determination (Appendix A). Mitigation requirements have been worked out programmatically with South Bench, interested Tribes, and other interested parties as described in the regulations governing adverse effects.

If during ground disturbing activity, contractors encounter any subsurface archaeological deposits including, but not limited to, prehistoric artifacts or features (pithouses, charcoal staining from hearths, etc.), human remains, historic building foundations or walls, outhouse/privies, or dense

trash deposits, work will be halted within 50 feet of the discovery and notification made to Reclamation, who will coordinate the recovery efforts with the appropriate agencies or Tribes.

3.12 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property held in trust by the United States for Federally recognized Indian Tribes or Indian individuals. Assets can be real property, physical assets, or intangible property rights, such as lands, minerals, hunting and fishing rights, and water rights. The United States has an Indian trust responsibility to protect and maintain rights reserved by or granted to such tribes or individuals by treaties, statutes, and executive orders. These rights are sometimes further interpreted through court decisions and regulations.

Federal Agencies are required to actively engage federally recognized tribal governments and consult with such tribes on a government-to-government level when their action may affect ITAs (*Federal Register*, Vol. 59, No. 85, May 4, 1994, pages 22951-22952). The Department of the Interior (Interior) is required to "protect and preserve ITAs from loss, damage, unlawful alienation, waste, and depletion" (Interior, Secretarial Order 3215). It is the general policy of the Interior to perform its activities and programs in such a way as to protect ITAs and avoid adverse effects whenever possible.

No ITAs have been identified in the project area. Implementation of the Proposed Action would have no foreseeable negative impacts on them.

3.13 Environmental Justice

Executive Order 12898 established Environmental Justice (EJ) as a Federal agency priority to ensure that minority, low-income, and Native American groups (collectively, EJ populations) are not disproportionately affected by Federal actions.

Information obtained from the 2014-2018 American Community Survey (ACS) 5-year estimates indicates that Oakley and Peoa Census Designated Place (Peoa) combined have an estimated total population of 1,699 individuals. Of these residents, 5.8 percent in Peoa and 12.2 percent in Oakley identify as Hispanic. For people reporting one race alone, 99.9 percent were White. In Peoa, an estimated 94.2 percent of the population identify as White non-Hispanic, and an estimated 87.7 percent in Oakley. No one identified as American Indian; 0.2 percent identified as Asian. The ACS data also indicate that approximately 6.3 percent of Oakley and Peoa residents are estimated to have incomes below the poverty level. Based on the demographic data from ACS, there are no EJ populations present. Therefore, implementation of the Proposed Action would not disproportionately (unequally) affect any EJ populations within the Action Area.

4 Cumulative Effects

In addition to Project-specific impacts, Reclamation analyzed the potential for significant cumulative effects to resources affected by the Project and by other past, present, and reasonably foreseeable activities within the watershed. The Council on Environmental Quality's regulations for implementing NEPA (50 CFR 1508.7) state that a cumulative impact "is an impact on the environment which results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." A cumulative effects analysis 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. There is no defined area for potential cumulative effects.

4.1 Methodology

The Project team has been working with South Bench and in the area for many years. The team searched public databases for any known past, present, and reasonably foreseeable actions in vicinity of the Project, however the majority of the lands surrounding the Project area are private. No large-scale infrastructure or land development proposals have been identified by Summit County or Oakley City. The canal runs through land that is zoned for residential use in Oakley City, however, any residential development on private property would already have agreed upon easements of the new, piped canal. The only other known past, present, or reasonably foreseeable projects are maintenance and construction activity on State Route 32 and local roads, and the installation of lateral pipelines and sprinkler irrigation systems on private land.

4.2 Cumulative Effects Analysis

Reclamation reviewed the potential for additive or interactive effects from this Project in combination with any other projects. Only those resources described below were determined to have the potential to contribute to cumulative effects if construction of the Proposed Action and other reasonably foreseeable projects occurs within the same timeframe.

Depending on seasonality and timing of project implementation, the proposed lateral pipelines and any roadway construction activity could contribute to cumulative effects on wildlife, visual resources, safety, air quality, and noise during construction. Impacts to wildlife would be temporary and minor disturbance, displacement, and potential individual mortality during construction. Downstream aquatic habitat may be improved as a result of long-term increased water quality from the Proposed Action and the transition from flood irrigation to sprinkler irrigation.

There would be fugitive dust, equipment exhaust, and the presence of construction personnel and crews during construction on public roadways. These impacts would be temporary and minor. Any

potential for cumulative impacts would be reduced through the implementation of BMPs and coordination with other contractors on timing of construction.

4.3 Conclusion

The Project would not have significant cumulative effects when combined with other past, present, and reasonably foreseeable projects, as described in the sections above.

5 Environmental Commitments

Environmental Commitments have been developed to further lessen the potentially minimal effects of the Proposed Action. The following environmental commitments will be implemented as an integral part of the Proposed Action:

1. **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 area, additional environmental analyses will be completed as Reclamation may deem necessary.

2. **Standard Reclamation Best Management Practices** - Standard Reclamation Best Management Practices will be applied during Project activities to minimize environmental effects and will be implemented by Project work forces or included in Project activity specifications. Such practices or specifications include erosion control, public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, archaeological and historical resources, vegetation, wildlife, and flood control. Excavated material and 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. All materials, including bedding material, excavation material, etc. may not be stockpiled in riparian or water channel areas. If necessary, silt fencing will 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 commencing the Project.

3. **Site Restoration** - A site restoration and revegetation plan will be developed to reclaim the areas disturbed by Project activity.

4. **UPDES Permit** - A UPDES Permit will 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 will be taken to ensure that construction related sediments will not enter the stream either during or after construction. Settlement ponds and intercepting ditches for capturing sediments will be constructed, and the sediment and other contents

collected will be hauled off the site for appropriate disposal upon completion of the Project.

5. **Fugitive Dust Control Permit** - The Division of Air Quality regulates fugitive dust from Project activity sites, requiring compliance with rules for sites disturbing greater than one-quarter of an acre. 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 Project activity. The BMP's will be followed to mitigate for temporary impacts on air quality caused by Project related activities. These may include the application of dust suppressants and watering to control fugitive dust; minimizing the extent of disturbed surface; during times of high wind, restricting earthwork activities; and limiting the use of, and speeds on, unimproved road surfaces.

6. **Cultural Resources** - If any cultural resources, either on the surface or subsurface, are discovered during Project activities, Reclamation's Provo Area Office archaeologist shall be notified and all activity in the area of the inadvertent discovery will cease until an assessment of the resource and recommendations for further work can be made by a professional archaeologist.
    a. If 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 the police and Reclamation's Provo Area Office archaeologist. Work will stop until the proper authorities are able to assess the situation onsite. This action will promptly be followed by written confirmation to the responsible Federal agency official. The Utah SHPO and interested Native American Tribal representatives will also be promptly notified. Consultation with SHPO and Native American Tribal representatives will begin immediately. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (43 CFR Part 10); and the Archaeological Resources Protection Act of 1979 (16 U.S.C. § 470).
    b. The stipulations under an existing Programmatic Agreement will be implemented by Reclamation and the Project Proponent (or contractor) in a timely fashion and concluded prior to its expiration date.

7. **Paleontological Resources** - Should vertebrate fossils be encountered during ground disturbing actions, Reclamation's Provo Area Office archaeologist shall be notified and all activity in the area of the inadvertent discovery will cease until an assessment of the resource and recommendations for further work can be made by a professional paleontologist.

8. **Wildlife Resources**
    a. Bald and Golden Eagles - If bald and/or golden eagles are observed within the Project area and vicinity, Reclamation's Provo Area Office wildlife biologist shall be notified and Project activities in the area shall cease until an assessment of eagle presence can be made by a professional wildlife biologist. The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" eagles, including their parts, nests, or eggs. "Take" means "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by

substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

b. Migratory Birds - New guidance pertaining to the MBTA was issued on December 22, 2017 by DOI under Secretarial Order 3345. Furthermore, the USFWS issued guidance in accordance with Solicitor's M-Opinion (m-37050). That guidance states that the MBTA's prohibitions on take apply when the purpose of an action is to take migratory birds, their eggs, or their nests. Therefore, the take of birds, eggs or nests resulting from an action in which the purpose is to not take birds, eggs or nests, is not prohibited by the MBTA.

c. Greater Sage Grouse - Conservation measures for sage grouse include:
    i. maintaining and stacking topsoil that is removed; re-contouring using the collected topsoil;
    ii. staging in areas that were previously disturbed;
    iii. reseeding with an appropriate mix following recommendations of range specialists (Reclamation, BLM, Utah DNR, etc.); and
    iv. controlling noxious and/or invasive species such as cheatgrass and/or others listed as nuisance species in Sublette and Sweetwater counties.

9. **Wetland Resources** - Any and all wetlands will be avoided where practical. In the event that impacts to wetlands are unavoidable, a U.S. Army Corps of Engineers 404 Permit will be obtained prior to any dredged or fill material being discharged into jurisdictional wetlands. Surveys will be conducted to evaluate temporary and permanent impacts to wetlands.

10. **Public Access** - Construction sites will be closed to public access. Temporary fencing, along with signs, will be installed to prevent public access. Reclamation will coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the Project area.

11. **Previously Disturbed Areas** - Project activities will be confined to previously disturbed areas where possible.

12. **New Disturbed Areas** - All newly disturbed areas resulting from the Project will be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project condition as practicable. After completion of the Project and restoration activities, disturbed areas will be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes will be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas will be required. Revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.

13. **Traffic Control Plan** - A Traffic Control Plan would be developed in coordination with Summit County officials to protect public health and safety.

14. **Health, Safety, Noise and Dust** - The Contractor would be responsible during Project activity for safety measures, noise control, dust control, and air and water pollution.

6 Scoping, Coordination, and Public Involvement

Scoping, as defined in 40 CFR 1501.7, is "an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action." Scoping includes all types of information-gathering activities and can occur throughout the NEPA process. The Proposed Action was presented to the public and interested agencies as outlined below.

Compliance with NEPA, is a Federal responsibility that involves the participation of other 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.

The EA was available during a 14-day comment period that ended September 22, 2020.

Reclamation consulted with the Northwestern Band of Shoshoni Nation; Shoshone-Bannock Tribes of the Fort Hall Reservation; Shoshone Tribe of the Wind River Reservation, Wyoming; and Ute Tribe of the Uintah and Ouray Reservation via a letter sent on August 13, 2020. To date, there has been no reply.

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. Their concurrence letter is included in Appendix A; details regarding cultural resources are provided in Section 3.11 of this EA.

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 Area (Action Area). A letter from UGS was received on May 27, 2020 and confirmed that there are no paleontological localities recorded in the Action Area.

Coordination with the U.S. Fish and Wildlife Service (USFWS) occurred to obtain an Information for Planning and Consultation (IPaC) report. These species are listed and described in Section 3.9 of this EA.

The USFWS's National Wetlands Inventory (NWI) database was queried to evaluate the presence of wetland features in the vicinity of the Action Area, which is described in more detail in Section 3.8 of this EA.

The National Resources Conservation Service's (NRCS) Web Soil Survey was referenced to obtain information on soils and farmland in the Action Area, which is described in more detail in Section 3.2 of this EA.

Members of the project team, including representatives and staff from South Bench met with property owners located along the Proposed Action alignment. South Bench has been holding shareholder meetings to discuss the Proposed Action since 2017.

At a stockholder meeting on January 11, 2018, initial alternatives were presented along with associated cost estimates and funding alternatives. Feedback was received from shareholders regarding alternatives for the diversion structure, piping alignments, construction impacts, construction cost, construction timing, funding and other miscellaneous concerns.

At another meeting on March 7, 2018, stockholders staff discussed the range of alternatives, the preferred alternative (Proposed Action) as well as general guidelines and options for funding. Stockholders voted to proceed with the implementation of Proposed Action.

Additional information was presented to stockholders in November 2019. South Bench has held several other meetings with shareholders and non-shareholders who reside along the Proposed Action alignment. Coordination with interested agencies was performed throughout the EA process. A 15-day comment period was also held on this draft EA.

The project team sent a letter to Mr. Paul Thompson with the Weber River Partnership and provided a description of the Proposed Action and solicited their input. The Aquatics Habitat Restoration Biologist with the Utah Division of Wildlife Resources responded with a letter of support for the Project (see Appendix D. Coordination and Consultation).

7 Preparers

The following is a list of preparers who participated in the development of the EA. They include environmental summary preparers, Reclamation team members, and Federal, State, and District members.

Engineering and Environmental Preparers

Name	Title	Affiliation
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Sheri Murray Ellis	Archaeologist	Certus Environmental Solutions, LLC

Reclamation Team, Environmental Preparers

Name	Title	Contribution
Jared Baxter	NEPA Specialist	NEPA lead
Zachary Nelson	Archaeologist	Cultural resources, Indian Trust Assets

8 Acronyms and Abbreviations

Acronyms	Meaning/Description
Ac-ft	Acre-feet
ACS	American Community Survey
AMSL	Above mean sea level
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BMPs	Best Management Practices
CAA	Clean Air Act
Certus	Certus Environmental Solutions, LLC
CO2	Carbon dioxide
CWA	Clean Water Act
E.O.	Executive Order
EA	Environmental Assessment
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
HDPE	High-density polyethylene
IPaC	Information for Planning and Consultation
ITA	Indian Trust Assets
kWh	Kilowatt-hours
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves and Repatriation Act
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PM	Particulate Matter
PVC	Polyvinyl chloride
Reclamation	Bureau of Reclamation
ROW	Right-of-way

SGMA	Sage-grouse management area
SHPO	State Historic Preservation Officer
South Bench	Peoa South Bench Canal & Irrigation Company
TESC	Temporary erosion and sediment control
TMDL	Total maximum daily load
UDAQ	Utah Division of Air Quality
UDWQ	Utah Division of Water Quality
UDWR	Utah Department of Wildlife Resources
UGS	Utah Geological Survey
UPDES	Utah Pollution Discharge Elimination System
USACE	U.S. Army Corps of Engineers
USDA NRCS	U.S Department of Agriculture Natural Resources Conservation Service
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WOTUS	Waters of the U.S.

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10 Appendices

Appendix A. Cultural and Paleontological Resources Assessment

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Jill Remington Love
Executive Director
Department of
Heritage & Arts

Utah Division of
State History

Christopher Merritt
State Historic Preservation Officer

Kevin Fayles
Interim Director

August 20, 2020

Kent Kofford
Area Manager
Bureau of Reclamation
302 East 1860 South
Provo, Utah 84606-7317

RE: Cultural Resource Assessment for the Peoa South Bench Piping Project, Summit County, Utah

For future correspondence, please reference Case No. 20-2887

Dear Mr. Kofford,

The Utah State Historic Preservation Office received your request for our comment on the above-referenced undertaking on August 17, 2020.

We concur with your determinations of site eligibility and "Adverse Effect" for this undertaking. Further, we agree with your use of the *Programmatic Agreement between the Bureau of Reclamation and Utah State Historic Preservation Officer Regarding National Historic Preservation Act Mitigation for Adverse Effect to Irrigation Infrastructure* to mitigate for adverse effects to 42SM583.

This letter serves as our comment on the determinations you have made within the consultation process specified in §36CFR800.4. If you have questions, please contact me at 801-245-7246 or by email at sagardy@utah.gov.

Sincerely,

Savanna Agardy
Compliance Archaeologist

May 26, 2020

Martha Hayden
Utah Geological Survey
1594 West North Temple
P.O. Box 146100
Salt Lake City, UT 84114-6100

Subject: Paleontological File Search and Recommendations request for the proposed South Bench Ditch piping project located in Peoa, Utah.

The proposed project is located within Sections 19, 20, and 21, Township 1 South, Range 6 East, and Section 24, Township 1 South, Range 5 East, Salt Lake Base and Meridian in Summit County, Utah.

Dear Ms. Hayden:

J-U-B Engineers, Inc. is completing the necessary environmental documentation for the proposed improvements to the South Bench Ditch in Peoa, Utah. Attached is an exhibit that illustrates the location of the proposed project.

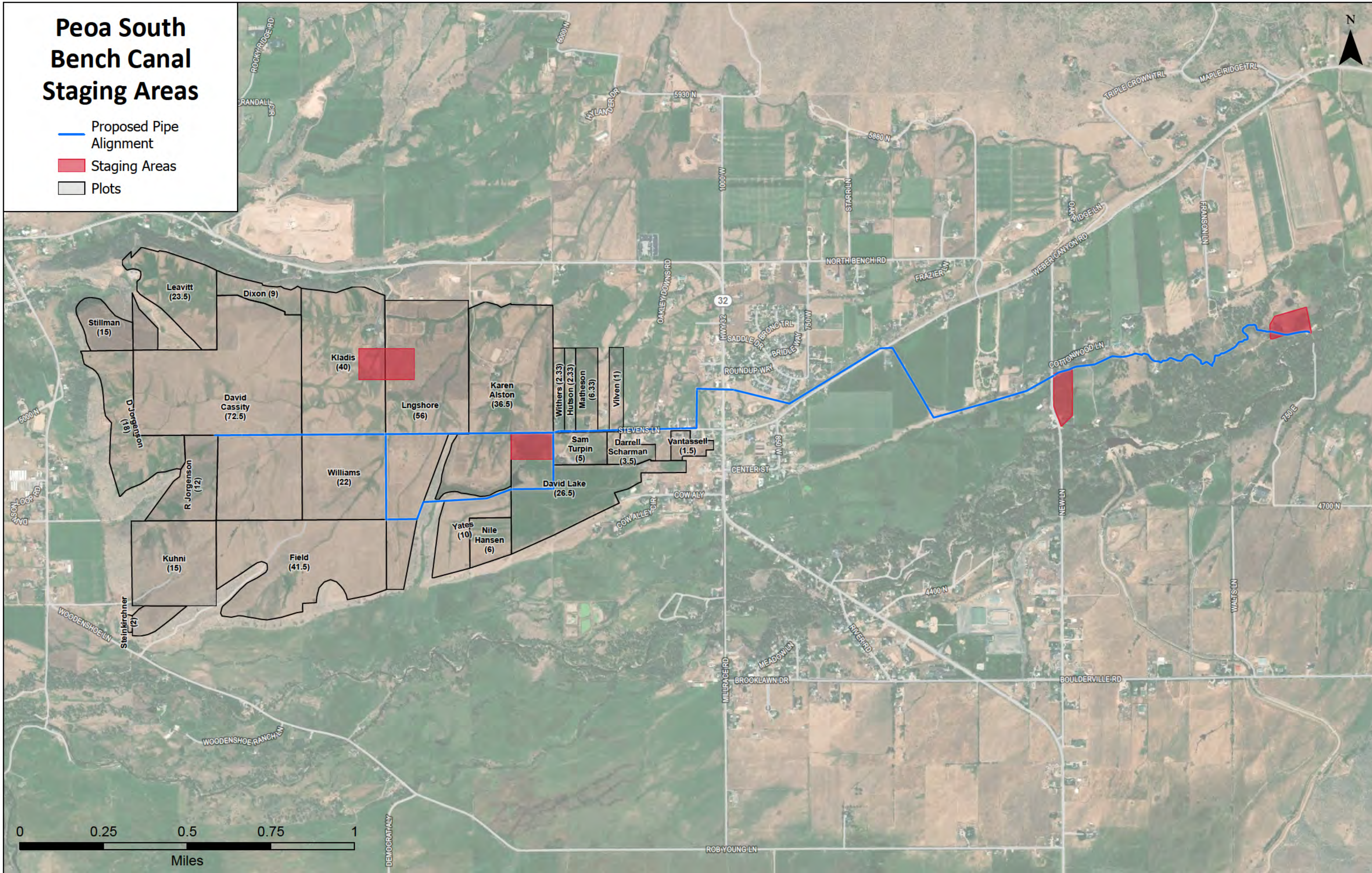
We are requesting a paleontological file search and list for formations of special concern in the proximity of the site described above. Please search your records for paleontological specimens, sites, or formations on the proposed project site.

Please feel free to call me at (801) 543-9823 or email me at dmoss@jub.com if you have any questions or need additional information. Thank you for your prompt attention to this request.

Sincerely,

Derek Moss, MBA, AICP
Environmental Planner

J-U-B ENGINEERS, Inc.
466 North 900 West, Kaysville, UT 84037
e dmoss@jub.com *w* www.jub.com
p 801 547 0393 *p* 801 543 9823 *f* 801 547 0397


Peoa South Bench Canal Staging Areas
Proposed Pipe Alignment
Staging Areas
Plots
Leavitt (23.5)
Dixon (9)
Stillman (15)
Kladis (40)
David Cassity (72.5)
Lngshore (56)
Karen Alston (36.5)
Withers (2.33)
Hutson (2.33)
Matheson (6.33)
Vilven (1)
D Jorgenson (8)
R Jorgenson (12)
Williams (22)
Sam Turpin (5)
Darrell Scharman (3.5)
Vantassell (1.5)
David Lake (26.5)
Yates (10)
Nile Hansen (6)
Kuhni (15)
Field (41.5)
Steinkirchner (2)
STEVENS LN
NORTH BENCH RD
WEBER CANYON RD
COTTONWOOD LN
BOULDERVILLE RD
ROB YOUNG LN
BROOKLAWN DR
CENTER ST
COW ALY
NEW LN
4700 N
4400 N
0 0.25 0.5 0.75 1
Miles
N

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
BRIAN STEED
Executive Director
Utah Geological Survey
R. WILLIAM KEACH, II
State Geologist/Division Director

May 27, 2020

Derek Moss
J-U-B Engineers, Inc.
466 North 900 West
Kaysville UT 84037

RE: Paleontological file search and recommendations for the Peoa South Bench Ditch Piping Project, Summit County, Utah
U.C.A. 79-3-508 (Paleontological) Compliance; Request for Confirmation of Literature Search.

Dear Derek:

I have conducted a paleontological file search for the Peoa South Bench Ditch Piping Project in response to your letter of May 26, 2020.

There are no paleontological localities recorded in our files in this project area. Quaternary and Recent alluvial deposits that are exposed along this project right-of-way have a low potential for yielding significant fossil localities (PFYC 2). Unless fossils are discovered as a result of construction activities, this project should have no impact on paleontological resources.

If you have any questions, please call me at (801) 537-3311.

Sincerely,

Martha Hayden
Paleontological Assistant

1594 West North Temple, Suite 3110, PO Box 146100, Salt Lake City, UT 84114-6100
telephone (801) 537-3300 • facsimile (801) 537-3400 • TTY (801) 538-7458 • *geology.utah.gov*

Appendix B. Biological Evaluation

Biological Evaluation of the

Peoa South Bench – Ditch Piping Project

Summit County, Utah

Prepared For

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

Prepared By

J-U-B ENGINEERS, Inc.
392 E. Winchester St., Suite 300
Salt Lake City, UT 84107

June 2020

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Attachments

Attachment 1. Vicinity Map
Attachment 2. Project Action
Attachment 3. USFWS IPaC Report
Attachment 4. UDWR Utah Natural Heritage Program Online Species Search
Attachment 5. Photo Inventory
Attachment 6. USDA / NRCS Web Soil Survey

1 Introduction

This biological evaluation (BE) was prepared for the proposed Peoa South Bench – Ditch Piping Project (Proposed Project) located in Summit County, Utah. This BE was prepared on behalf of the Peoa South Bench Ditch Company (PSBDC) for the U.S. Department of the Interior's Bureau of Reclamation (Reclamation). Summit County and the PSBDC secured funding for the Proposed Project through Reclamation's WaterSMART Program. This BE was prepared in compliance with Section 7(a)(2) of the Endangered Species Act (ESA) (16 U.S.C. 1536(c)) to sufficiently document and review the Proposed Project's Action Area (Action Area) and to assess the degree to which the Proposed Project may affect federally threatened or endangered species or species proposed for listing; designated and proposed critical habitat; and, state sensitive species. This BE serves as supporting documentation for the Environmental Assessment for the Proposed Project. The U.S. Army Corps of Engineers (USACE) may issue permits under Section 404 of the Clean Water Act (CWA) (33 U.S.C 1251 et seq.) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) for activity categories described in this BE.

2 Location of the Project Area and Description of Proposed Action

2.1 Project Area

The Proposed Project is located within the Upper Weber Sub-Basin (HUC 16020101) within the Weber River Basin. The Action Area is situated within and around the communities of Peoa and Oakley in Summit County, Utah. More specifically, the Action Area is located within Sections 19 and 20, Township 1 S, Range 6 E; and, Section 24, Township 1 S, Range 5 E, Salt Lake Meridian (see Vicinity Map, Attachment 1). The Peoa South Bench Canal (the canal) receives water from the Weber River to the east of the Action Area. Land use in the Action Area consists primarily of agriculture and residential uses. Elevations the Action Area range from 6,417 feet above mean sea level (AMSL) to 6,547 feet AMSL. The Proposed Project would follow a modified alignment , and staging areas would be placed in upland agricultural fields, gravel lots, or along the ditch right-of-way.

2.2 Proposed Action

The Proposed Project would pipe the entirety (approximately five linear miles) of the Peoa South Bench Canal (see Attachment 2, Project Action). The Proposed Project would pipe and pressurize the existing ditch with new 32-inch diameter high-density polyethylene (HDPE) and 27-inch polyvinyl chloride (PVC) pipe. The piping would start at the existing diversion location on the Weber River and would follow a modified alignment. The modified alignment would travel in a straight line following existing property lines, fence lines, and existing access roads, thus reducing the length of pipe and minimizing the amount of ground disturbance. A modified alignment would deliver water to a more centralized location relative to the land being irrigated. A metering system would be installed where the current control structure is located to account for the volume of water diverted from the Weber River and to establish a baseline for shareholder use. Individual meters would be installed for shareholders along the existing pipeline. A fish screen would be installed at the diversion location to minimize impacts to aquatic life.

Overall, the purpose of the Proposed Project is to improve water use efficiency by reducing the amount of water lost to seepage and evaporation. Construction would occur outside of the irrigation season so

that no water would be present in the canal during construction of the pipeline. It is anticipated that the Proposed Project would meet the requirements for an agricultural or maintenance exemption under Section 404(f) of the Clean Water Act. The Proposed Project would not alter the use of the irrigation waters in the new pipeline. Water would continue to be used for irrigation, and no extension of the water's current reach is planned. Pending environmental approval, the Proposed Project would be implemented in Fall 2020 and completion is anticipated for Spring 2021.

3 Conservation Measures

Construction Best Management Practices (BMPs) are standard requirements and would be required during the implementation of the Proposed Project. These would include, but are not limited to, soil and erosion control devices, noxious weed prevention and control, construction timing to minimize or avoid breeding and nesting season for migratory birds, as well as Standard Operating Procedures (SOPs) required by Reclamation. The following BMPs and conservation measures are intended to minimize adverse effects on listed species and their habitats, as well as to protect water quality and minimize disturbance to soils and vegetation.

1. Construction would be timed to occur outside of the irrigation season, beginning in the Fall 2020.
2. Equipment would be pressure washed to avoid noxious weed dispersal within the Action Area.
3. Native seed mixes appropriate to the surrounding habitat would be utilized to re-establish vegetation in all areas with ground disturbance.
4. All necessary BMPs would be in place to control sediment and erosion, and to protect water quality during construction activities. Piping the canal would occur outside of the irrigation season when water is not present in the canal.
5. A spill prevention control and countermeasure (SPCC) plan would be in place prior to any construction activities. Construction equipment would be fueled offsite or at least 150 feet from any water source. A stormwater pollution prevention plan (SWPPP) would be in place prior to any construction activities.
6. All construction activities and staging areas shall be confined within the established project Action Area.
7. The site shall be cleared for any migratory birds and active bird nests prior to removing any large trees.

4 Methodology

An Official Species List from the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) system was generated for the Action Area on May 27, 2020 (Attachment 3). The Utah Division of Wildlife Resources' (UDWR) Utah Natural Heritage Program Online Species Search was also consulted to determine records of ESA-listed and State Sensitive Species occurrence in the Proposed Project's vicinity (Attachment 4). A field survey was conducted by a qualified biologist with J-U-B ENGINEERS, Inc. (JUB) on October 16, 2019 and April 28, 2020 to assess existing environmental conditions within the Action Area.

5 Existing Environmental Conditions

The Proposed Project ranges in elevation from approximately 6,417 feet AMSL to 6,547 feet AMSL. The Proposed Project's modified alignment largely follows the unlined, open canal, which flows through agricultural fields, residential areas, and along local roads. For representative photos of the Action Area, refer to the included Photo Inventory (Attachment 5). The Proposed Project would be constructed following a modified canal alignment, beginning at the canal's diversion structure at the Weber River and terminating approximately five miles to the west.

Vegetation in the Action Area is dominated by reed canarygrass (*Phalaris arundinacea*), Johnsongrass (*Sorghum halepense*), orchardgrass (*Dactylis glomerata*), Russian olive (*Elaeagnus angustifolia*), willow (*Salix spp.*), cottonwoods (*Populus spp.*) and boxelder maples (*Acer negundo*).

All Proposed Project staging areas would be located in an upland position within a disturbed setting (i.e. residential property, agricultural fields, paved or gravel parking lots). Staging areas are dominated by weedy, upland, and agricultural species.

A variety of soils and soil complexes are found throughout the Action Area. The majority of soils in the Action Area are loamy in texture. The dominant soil types are included in the table below and described in detail in the included Soil Maps (Attachment 6).

Table 1. Action Area Soil Types

Soil Type Name	Percent of Action Area
Echocreek lam, 2 to 10 percent slopes	22.5%
Horrocks-Hades complex, 30 to 60 percent slopes	1.6%
Manila-Ant Flat loams, 2 to 8 percent slopes	33.3%
Snyderville cobbly loam, 1 to 5 percent slopes	0.01%
Wanship-Kovich loams, 0 to 3 percent slopes	33.6%
Yeates Hollow-Henefer complex, 30 to 60 percent slopes	8.9%

5.1 Upper Weber River Sub-Basin

The Proposed Project is located within the Great Basin Region, specifically the Upper Weber River Sub-Basin (HUC 6020101) in the Weber River Basin. The Weber River is the primary hydrologic feature in the Upper Weber River Sub-Basin. The Proposed Project is more specifically located within the 12th-order sub-watersheds: Browns Canyon-Upper Weber River (160201010401), and Whites Creek-Upper Weber River (160201010206). The Weber River flows through both of these sub-watersheds, resulting in a drainage area of approximately 175 square miles (EPA 2020).

The Peoa South Bench Canal originates to the east of the city of Oakley at a diversion structure on the Weber River. The existing canal is an open, unlined ditch, that conveys irrigation water to a number of agricultural users in the surrounding area.

On average, the Action Area receives approximately 16.50 inches of precipitation annually. The average temperature in the area is 44.1°F, with average highs reaching 85.7°F in the summer and average lows

falling to 12.6°F in the winter. The Kamas, UT weather station (the closest active station to the Action Area) typically receives 87.5 inches of snowfall each year (FIPS 49043; NOAA Regional Climate Centers 2020).

6 Status of Species and Habitat

6.1 Agency Coordination and Species of Concern

Two ESA-listed species were identified by the IPaC Report (dated May 27, 2019) as potentially occurring within the Action Area: Canada lynx (*Lynx canadensis*) and yellow-billed cuckoo (*Coccyzus americanus*), both of which are listed as threatened under the ESA. No proposed or designated critical habitat occurs in the Action Area. According to the Utah Natural Heritage Database, there are historic records of Bonneville cutthroat trout (*Oncorhynchus clarkia utah*), greater sage-grouse (*Centrocercus urophasianus*), bluehead sucker (*Catostomus discobolus*), and Columbia spotted frog (*Rana luteiventris*) within a two-mile radius of the Action Area (Attachment 4). All of these species are Utah wildlife species of concern.

6.2 Species Descriptions

The following sections briefly discuss Canada lynx, yellow-billed cuckoo, Bonneville cutthroat trout, greater sage-grouse, bluehead sucker, and Columbia spotted frog.

6.2.1 Canada Lynx

The Canada lynx in the lower 48 states was designated as a distinct population segment (DPS) and was listed as threatened under the ESA in 2000 (USFWS 2013). Their distribution extends from Canada and Alaska south to Maine, the Rocky Mountains, and the Great Lakes Region (UDNR 2019). The Canada lynx is a mid-sized carnivore typically found in dense boreal spruce forests with an abundance of windfalls, swamps, and brushy thickets (Maas 1997) Lynx require heavy cover for concealment while stalking prey and have adapted morphological features advantageous to hunting its primary prey, the snowshoe hare (*Lepus americanus*), in deep, powdery snow. In the western U.S., lynx are rarely observed in areas below 4,000 feet AMSL (McKelvey et al. 2000). They are generally solitary animals and their distribution is closely tied to food availability. They breed from late winter to early spring with an average litter of three to four individuals. Scarcity of prey can suppress breeding and may cause mortality of nearly all yearlings (UDNR 2019). They are nocturnal animals that are rarely observed in Utah. A lack of recent occurrences in Utah suggest that breeding pairs may have been extirpated from the State. The most recent confirmed sighting was in the Uinta Mountains in 1982, however a hair sample from the Manti-La Sal Mountains confirmed Canada lynx presence in 2002 (UDNR 2019).

6.2.2 Yellow-billed Cuckoo

The yellow-billed cuckoo is a federally-listed threatened species under the Endangered Species Act. 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). The species is a neotropical migrant that winters in South America. Breeding often coincides with the appearance of massive numbers of cicadas, caterpillars, or other large insects (Ehrlich et al. 1992). Its incubation/nesting period is the shortest of any known bird because it is one of the last neotropical migrants to arrive in North America and the

chicks have very little rearing time before embarking on their transcontinental migration. Cuckoos typically start their southerly migration by late August or early September (Parrish et al. 1999). Yellow-billed cuckoo is considered a riparian obligate and is usually found in large tracts of cottonwood/willow habitats with dense sub-canopies (below 33 feet) (UDWR 2018).

6.2.3 Bonneville cutthroat trout

The Bonneville cutthroat trout is a subspecies of cutthroat trout native to the Bonneville Basin of Utah, Wyoming, Idaho, and Nevada. Bonneville cutthroat trout habitat includes mountain streams and lakes to open grassland streams. Known populations of this species in Utah include Bear Lake and Strawberry Reservoir. Bonneville cutthroat trout are included on the Utah Sensitive Species List as a result of habitat loss, predation, and competition. The species feeds primarily on insects. Spawning occurs in spring over gravel substrate (UDWR 2011). The typical spawning period for Bonneville cutthroat trout occurs during the spring or early summer (USFS 2014).

6.2.4 Greater Sage-Grouse

The greater sage-grouse is the largest North American grouse species and inhabits sagebrush plains, foothills, and mountain valleys in the western United States (UDWR 2019). Human encroachment, livestock grazing, cropland conversion, and energy development and exploration have caused a 50 percent decline in sage-grouse habitat (UDWR 2019). In 2010, the USFWS found that the greater sage-grouse warranted listing under the ESA due to habitat destruction and a lack of regulatory mechanisms designed to protect sage-grouse habitat (UPLPCO 2018). Later, in 2015, the USFWS found that the greater sage-grouse did not warrant listing under the ESA (USFWS 2015). Conservation and management plans have since been implemented by western states and federal agencies throughout sage-grouse habitat. Greater sage-grouse is a Utah wildlife species of concern. In 2008, the species was observed within a 2-mile radius of the Action Area.

Sagebrush habitats ranging from approximately 4,000 to 9,000 feet above sea level with a plentiful understory of forbs, grasses, and availability of water are essential for optimum sage-grouse habitat (USFWS 2016). Male greater sage-grouse have a white breast ruff, are mottled gray-brown overall, have a black belly, black throat and bib, and long, stiff spike-like tail feathers. Females are mottled gray-brown overall, have a black belly, a white throat, and lack the yellow eye comb seen in males. Diet consists of evergreen leaves, plain sagebrush shoots, blossoms, leaves, pods, buds, and insects (Alsop 2001). Male sage-grouse gather on traditional breeding grounds called leks during the spring breeding season and perform elaborate courtship performances to attract a mate.

6.2.5 Bluehead Sucker

The bluehead sucker is native to parts of Utah, Idaho, Arizona, New Mexico, and Wyoming. The bluehead sucker is a native bottom feeding fish that scrapes algae from the surface of rocks. Fast flowing and steep gradient mountainous stream reaches are identified to be critical habitat for this species; however, no critical habitat was identified within the Action Area. The population size of the bluehead sucker has been in decline due to habitat loss, flow alterations, and the introduction of non-native species (UDWR 2019). This species was last observed within a 2-mile radius of the Action Area in 1967.

6.2.6 Columbia Spotted Frog

The Columbia spotted frog is found in isolated populations in the West Desert and along the Wasatch Front. Habitat loss and degradation, especially along the Wasatch Front, have led to the inclusion of this species on the Utah Sensitive Species List. The dorsal coloration of this species is light brown to gray, with varying degrees of spotting, and the ventral coloration varies from yellow to red (UDWR 2019). The species prefers isolated springs and seeps that have permanent water sources, although they are known to move overland in spring and summer after breeding. During the winter months, spotted frogs burrow in the mud and become inactive. The species breeds immediately following the winter thaw, with eggs hatching 3 to 21 days later depending on temperatures (UDWR 2019). The diet of adult frogs ranges from insects to snails, whereas tadpoles eat algae, plants, and small aquatic organisms.

7 Effects of the Action

7.1 Canada Lynx

While the elevation of the Action Area is within the typical range of the Canada lynx, the vegetative assemblage and landform characteristics would not be considered suitable habitat for the species. No dense forested areas with windfalls, swamps, and brushy thickets are present in the Action Area. The Action Area consists primarily of grasses and forbs, with a narrow riparian fringe along the canal. Additionally, the Action Area and surrounding vicinity are heavily disturbed by agricultural practices and residential development. Given the lack of suitable habitat and the Action Area's location near human development, it is unlikely that Canada lynx would be present in the Action Area. Therefore, the Proposed Project would be anticipated to have no effect on the Canada lynx.

7.2 Yellow-Billed Cuckoo

The vegetative assemblage and disturbed residential and agricultural land surrounding the Action Area would not be considered suitable habitat for the species. While there are some small, scattered cottonwood and Russian olive stands within 0.5 miles of the Action Area, these areas lack the requisite size for suitable yellow-billed cuckoo habitat. Furthermore, a shrubby understory for suitable yellow-billed cuckoo habitat is lacking in these areas due to grazing pressure. The IPaC also does not list the Action Area as critical habitat for the yellow-billed cuckoo. Construction activities would begin after the yellow-billed cuckoo should have migrated away from the Action Area, and construction activities would end before birds return to the area for breeding. Based on the project timing and lack of suitable habitat within the Action Area, the Proposed Project would be anticipated to have no effect on the yellow-billed cuckoo.

7.3 Bonneville Cutthroat Trout

The Weber River is characterized as suitable habitat for Bonneville cutthroat trout, and the UDWR's most recent documented occurrence of the species within a two-mile radius of the Action Area took place in 2010. The Proposed Project is anticipated to have no effect on Bonneville cutthroat trout present in the Weber River because the existing concrete diversion structure would remain in its current state, and fish screens would be installed within the existing diversion structure, effectively screening fish from entering the new pipe.

7.4 Greater Sage-Grouse

Construction activities would occur outside of the irrigation season, which overlaps with the beginning of breeding and nesting season for the species. Portions of the surrounding vicinity of the Action Area is consistent with greater sage-grouse habitat requirements. However, within the Action Area appropriate habitat for the species is not present within the canal prism or the staging areas, which are located in agricultural fields, gravel lots, or within the actively disturbed canal prism. Outside the canal prism, the surrounding land use is residential or agricultural, and the Action Area is located approximately 13-miles south of the nearest documented sage-grouse management area (SGMA). Given the marginal quality of habitat within the Action Area, the level of disturbance and residential land use, and that the last recorded species occurrence within two miles of the Action Area was in 2008, it is anticipated that the Proposed Project would have no effect on the greater sage-grouse.

7.5 Bluehead Sucker

Based on information from the UDWR, the most recent documented occurrence of the bluehead sucker within a two-mile radius of the Action Area took place in 1967. While the nearby Weber River would provide habitat for the species, the existing canal does not provide suitable habitat for the bluehead sucker, as it is not consistent with fast-flowing, steep gradient mountain streams and is dry outside of the irrigation season. Construction would be timed to take place outside of the irrigation season to minimize impacts to aquatic species. Due to the lack of suitable habitat and proposed construction timing, the Proposed Project is anticipated to have no effect on bluehead sucker.

7.6 Columbia Spotted Frog

The best available habitat in the Action Area for the Columbia spotted frog is present within the eastern half of the existing canal alignment. However, this area is actively disturbed by agricultural and residential activities, and there are no isolated lakes, ponds, floating vegetation, or persistent springs and backwater areas within the Action Area that would provide suitable habitat. Furthermore, the canal is filled during the irrigation season and would not provide suitable aquatic habitat outside of this period, which is typically October through April. Given the lack of preferred habitat and the level of disturbance, it is unlikely that the frog would inhabit the existing canal and would not be anticipated to inhabit the more heavily disturbed residential areas within the Action Area. Therefore, the Proposed Project is anticipated to have no effect on the Columbia spotted frog.

7.7 Cumulative Effects

Cumulative effects are defined as those effects of future state or private activities, not involving federal activities, that are reasonably certain to occur within the Action Area of the federal action subject to consultation (50 CFR 402.02). Land use within the Action Area is dominated by residential and agricultural uses, and this project in the primary irrigation canal project in the area. No other projects have been proposed that would overlap with the Action Area, therefore negative cumulative effects to listed species would not be anticipated from the Proposed Project.

8 Determination of Effects

After considering the available scientific information regarding the biological requirements and the status of ESA-listed species considered in this BE, the environmental baseline for the Action Area and

the proposed BMPs, and the potential effects of the Proposed Project, the following species effects determinations were made:

1. For Canada lynx, the determination of “no effect.”
2. For yellow-billed cuckoo, the determination of “no effect.”
3. For Bonneville cutthroat trout, the determination of “no effect.”
4. For greater sage-grouse, the determination of “no effect.”
5. For bluehead sucker, the determination of “no effect.”
6. For Columbia spotted frog, the determination of “no effect.”

9 Migratory Bird Treat Act / Bald and Golden Eagle Protection Act

The IPaC report identified three avian species protected under the Migratory Bird Treaty Act (MBTA) and/or the Bald and Golden Eagle Protection Act (BGEPA) as potentially occurring within the Action Area: bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), and rufous hummingbird (*Selasphorus rufus*). These birds can be found throughout the western United States, and have the potential to exist within the habitat surrounding the Action Area. Construction activities would occur outside of the irrigation season and the majority of construction activities would occur outside of bird migration, breeding, and nesting seasons. The Action Area should be surveyed for any active migratory bird or eagle nests prior to the removal of any large trees. If a nest were to be identified within the Action Area, the USFWS would be notified immediately to discuss the appropriate course of action.

10 Conclusion

Based on the proposed BMPs and a lack of suitable habitat conditions within the Action Area for most species, it was determined that the Proposed Project would have “no effect” on the Canada lynx, yellow-billed cuckoo, Bonneville cutthroat trout, greater sage-grouse, bluehead sucker, and Columbia spotted frog. No proposed or final designated critical habitat is contained within the Action Area, therefore the Proposed Project is expected to have “no effect” on ESA-listed species or any associated critical habitat, nor would it be anticipated to have an effect on any State Sensitive Species. It should be noted that the final authority regarding species effect determinations rests with the appropriate regulatory authority.

11 References

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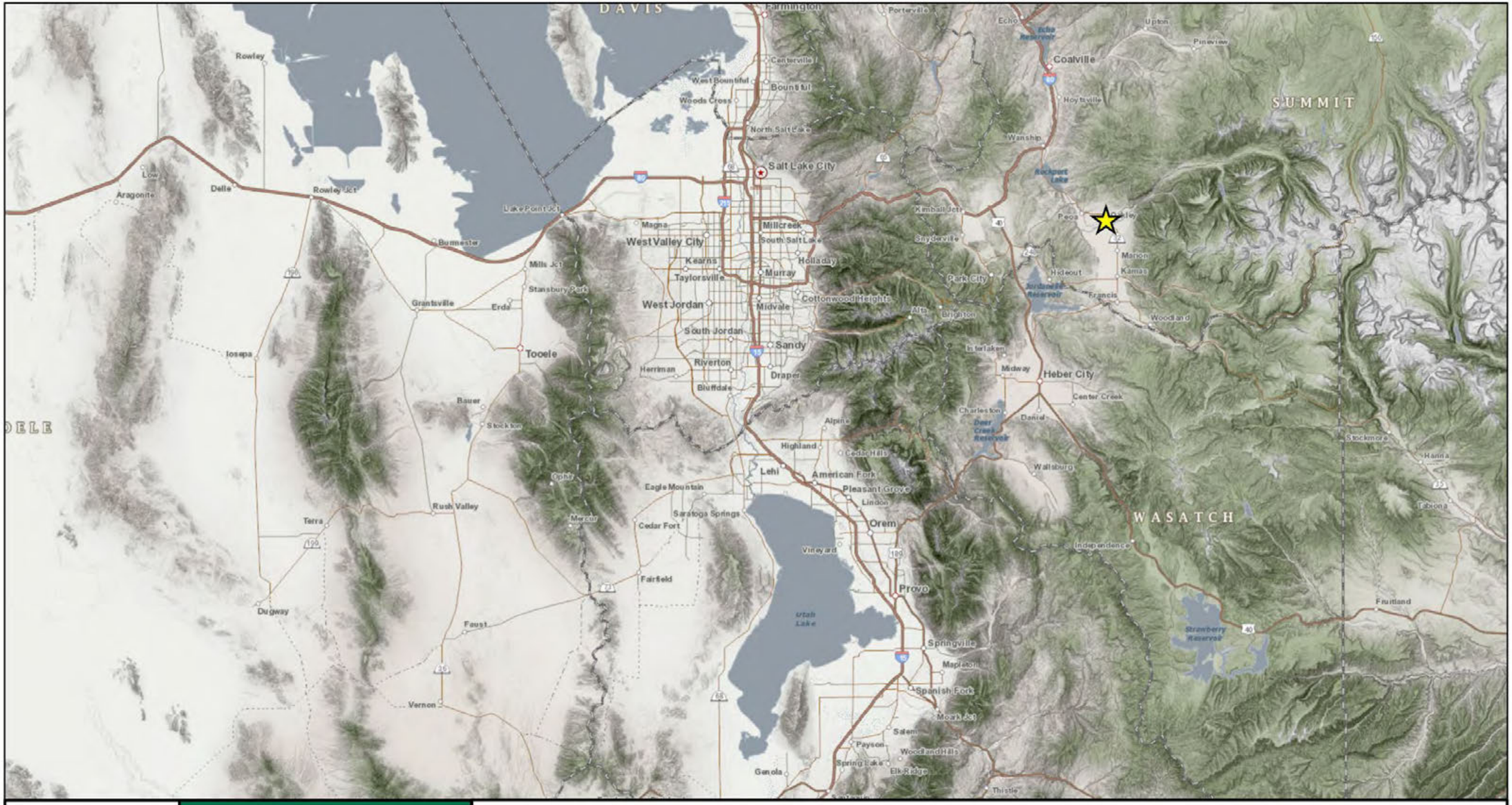
BE Attachment 1. Action Area Vicinity Map



J·U·B ENGINEERS, INC.

Vicinity Map

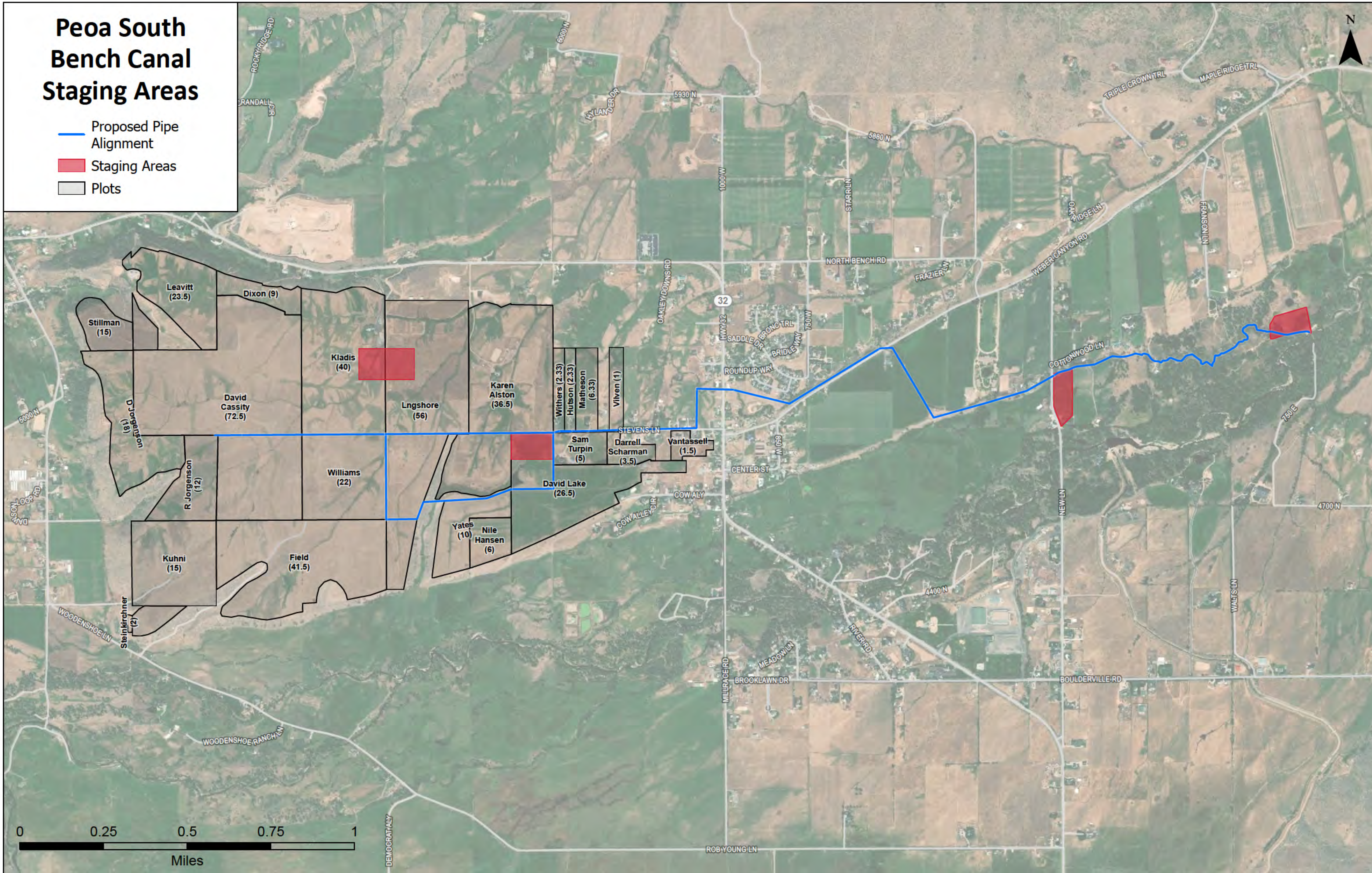
Peoa South Bench Ditch Piping Project

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

Legend

Project Location

BE Attachment 2. Project Action



Peoa South Bench Canal Staging Areas
Proposed Pipe Alignment
Staging Areas
Plots
Leavitt (23.5)
Dixon (9)
Stillman (15)
Kladis (40)
Karen Alston (36.5)
David Cassity (72.5)
Lngshore (56)
D Jorgenson (8)
Withers (2.33)
Hutson (2.33)
Matheson (6.33)
Vilven (1)
Sam Turpin (5)
Darrell Scharman (3.5)
Vantassell (1.5)
Williams (22)
R Jorgenson (12)
David Lake (26.5)
Yates (10)
Nile Hansen (6)
Kuhni (15)
Field (41.5)
Steinkirchner (2)
STEVENS LN
NORTH BENCH RD
WEBER CANYON RD
COTTONWOOD LN
CENTER ST
COW ALY
NEW LN
BOULDERVILLE RD
ROB YOUNG LN
WOODENSHOE LN
WOODENSHOE RANCH LN
0 0.25 0.5 0.75 1
Miles
N

BE Attachment 3. USFWS IPaC Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Utah Ecological Services Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119-7603
Phone: (801) 975-3330 Fax: (801) 975-3331
http://www.fws.gov
http://www.fws.gov/utahfieldoffice/

In Reply Refer To: May 27, 2020
Consultation Code: 06E23000-2019-SLI-0472
Event Code: 06E23000-2020-E-01435
Project Name: Peoa South Bench Canal

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

To Whom It May Concern:

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

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

Project Summary

Consultation Code: 06E23000-2019-SLI-0472

Event Code: 06E23000-2020-E-01435

Project Name: Peoa South Bench Canal

Project Type: AGRICULTURE

Project Description: Pipe open irrigation canal

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.718298110682795N111.29948481550065W

Counties: Summit, UT

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/6901/office/65411.pdf	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

NAME	BREEDING SEASON
Rufous Hummingbird *selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

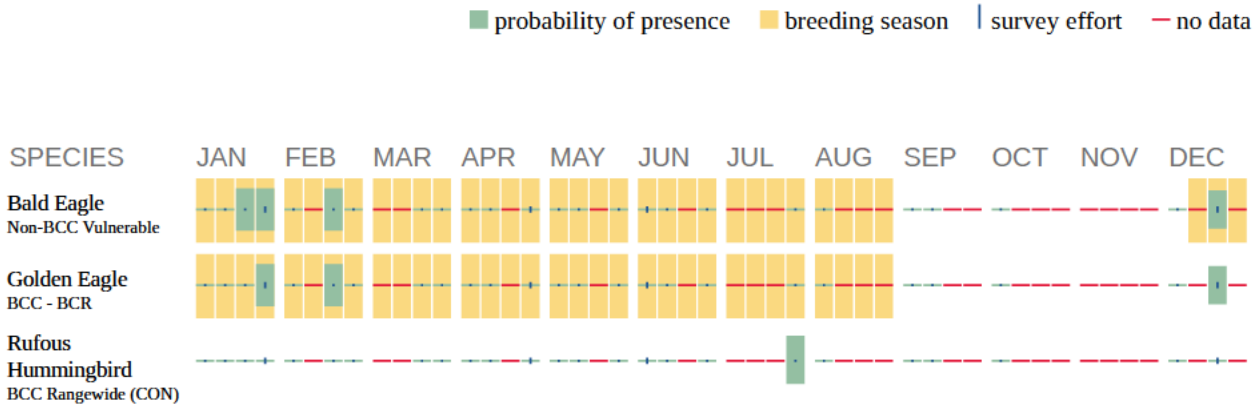
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding

in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In

contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

BE Attachment 4. Utah Natural Heritage Program Report

Utah Division of Wildlife Resources
Utah Natural Heritage Program
1594 W. North Temple
PO Box 146301
Salt Lake City, UT 84116

Report Number: 10734
October 14, 2019

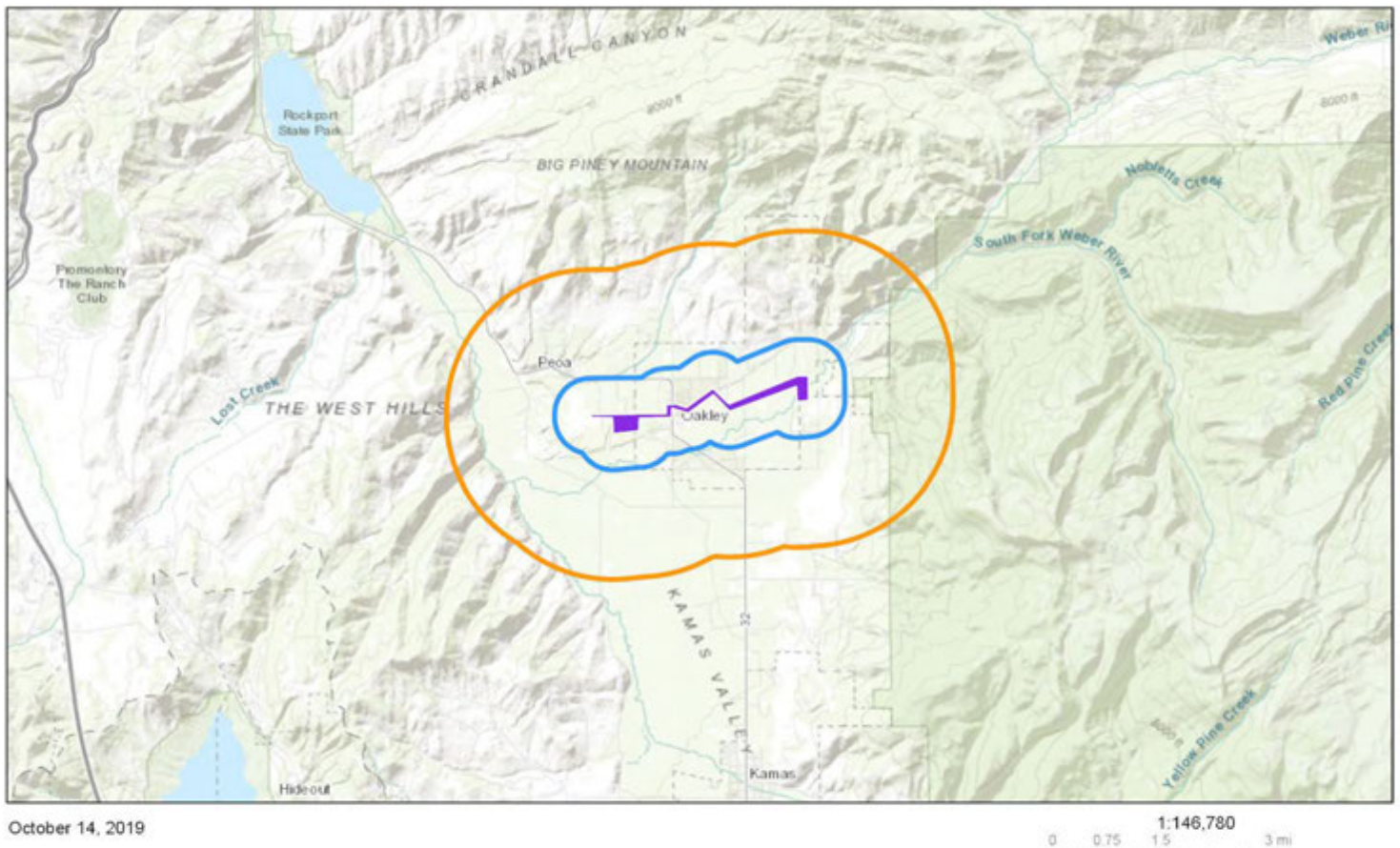
Utah Natural Heritage Program Online Species Search Report

Project Information

Project Name
Peoa South Bench Canal

Project Description
Pipe open irrigation canal

Location Description
Peoa, Utah



October 14, 2019

1:146,780
0 0.75 1.5 3 mi
0 1.5 3 6 km

Species within a ½ mile radius

Common Name	Scientific Name	State Protection Status	U.S. ESA Status	Last Observation Year
Bobolink	Dolichonyx oryzivorus	SPC		2005
Bald Eagle	Haliaeetus leucocephalus	SPC		2003
Lewis's Woodpecker	Melanerpes lewis	SPC		1913

Species within a 2 mile radius

Common Name	Scientific Name	State Protection Status	U.S. ESA Status	Last Observation Year
Bonneville Cutthroat Trout	Oncorhynchus clarkii utah	CS		2010
Greater Sage-grouse	Centrocercus urophasianus	SPC		2008
Bobolink	Dolichonyx oryzivorus	SPC		2005
Bald Eagle	Haliaeetus leucocephalus	SPC		2003
Bluehead Sucker	Catostomus discobolus	CS		1967
Columbia Spotted Frog	Rana luteiventris	CS		1960
Lewis's Woodpecker	Melanerpes lewis	SPC		1913

Definitions

State Protection Status

S-ESA	Federally-listed or candidate species under the Endangered Species Act
SPC	Wildlife species of concern
CS	Species receiving special management under a Conservation Agreement in order to preclude the need for Federal listing

U.S. Endangered Species Act

LE	A taxon that is listed by the U.S. Fish and Wildlife Service as "endangered" with the probability of worldwide extinction
LT	A taxon that is listed by the U.S. Fish and Wildlife Service as "threatened" with becoming endangered
LE;XN	An "endangered" taxon that is considered by the U.S. Fish and Wildlife Service to be "experimental and nonessential" in its designated use areas in Utah
C	A taxon for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threats to justify it being a "candidate" for listing as endangered or threatened
PT/PE	A taxon "proposed" to be listed as "endangered" or "threatened" by the U.S. Fish and Wildlife Service

Disclaimer

The information provided in this report 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, any given response is only appropriate for its respective request.

The UDWR provides no warranty, nor accepts any liability, occurring from any incorrect, incomplete, or misleading data, or from any incorrect, incomplete, or misleading use of these data.

The results are a query of species tracked by the Utah Natural Heritage Program, which includes all species listed under the U.S. Endangered Species Act and species on the Utah Sensitive Species List. Other significant wildlife values might also be present on the designated site. Please contact UDWR's regional habitat manager if you have any questions.

Contact the U.S. Fish and Wildlife Service at (801) 975-3330 for the purpose of consultation under the Endangered Species Act.

Please contact our office at (801) 538-4759 or habitat@utah.gov if you require further assistance.

Your project is located in the following UDWR region(s): Northern region

---

Report generated for:
Trent Hamada
jub engineers
2875 S. Decker Lake Dr., Suite 575
Salt Lake City, UT 84119
(801) 886-9052
thamada@jub.com

BE Attachment 5. Photo Inventory

Photo 1. View of the South Bench Canal diversion structure on the Weber River.

Photo 2. The existing Parshall flume near the head of the South Bench Canal.

Photo 3. View of the modified alignment the canal would follow near the east end of the Action Area.

Photo 4. View of the canal and typical vegetation along its banks.

Photo 5. View of the canal as it flows through residential areas of Peoa.

Photo 6. View of the canal bank as it flows through agricultural property.

Photo 7. View of the modified alignment the canal would follow in a residential area of Peoa.

Photo 8. View of the modified alignment the canal would follow near the west end of the Action Area.

Photo 9. View of the modified alignment the canal would follow near the west end of the Action Area.

BE Attachment 6. NRCS Web Soil Survey

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties

October 14, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

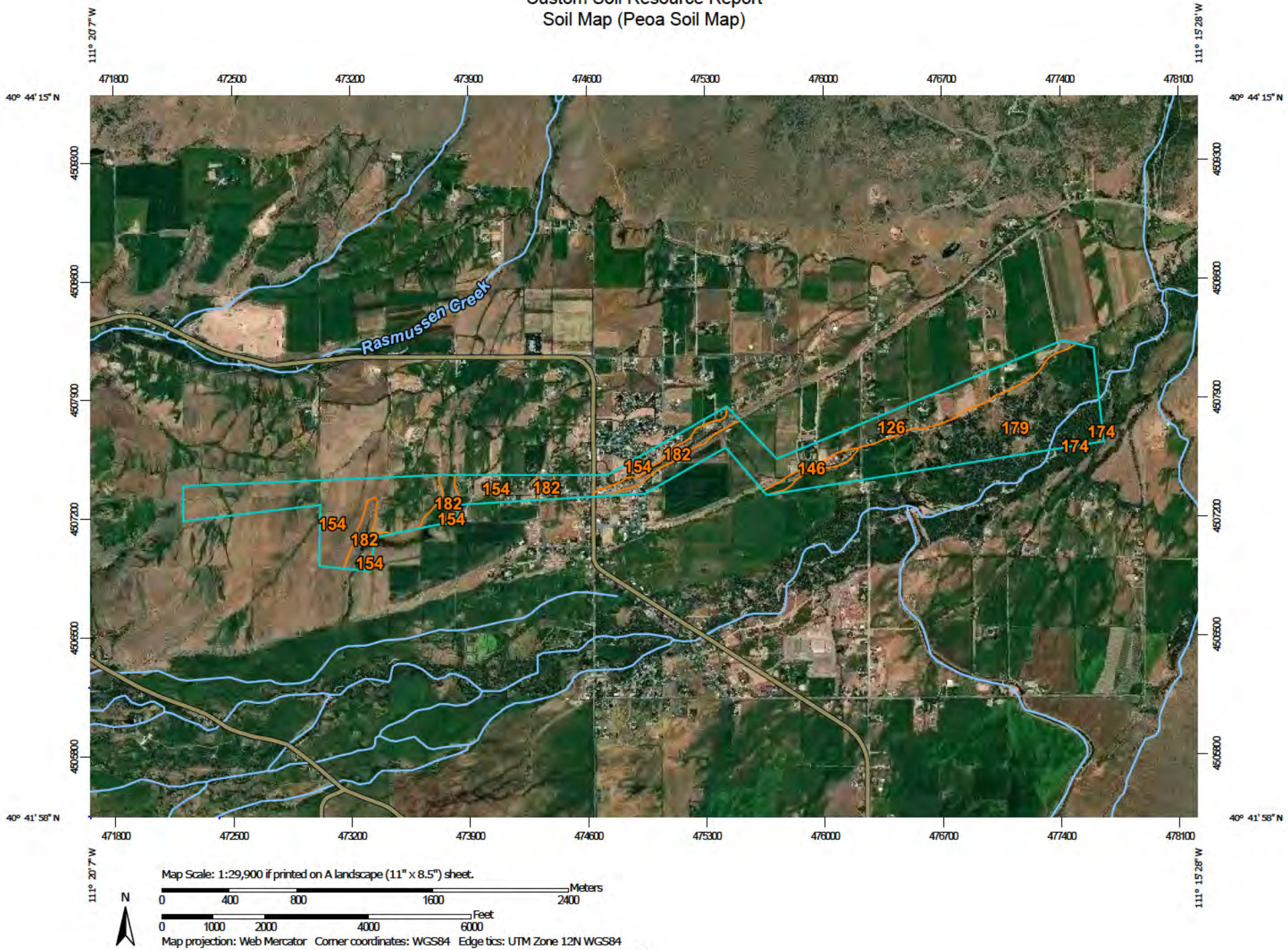
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Peoa Soil Map)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties
Survey Area Data: Version 11, Sep 16, 2019

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

Date(s) aerial images were photographed: Jun 14, 2016—Nov 8, 2017

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

Map Unit Legend (Peoa Soil Map)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
126	Echocreek loam, 2 to 10 percent slopes	93.0	22.5%
146	Horrocks-Hades complex, 30 to 60 percent slopes	6.7	1.6%
154	Manila-Ant Flat loams, 2 to 8 percent slopes	137.5	33.3%
174	Snyderville cobbly loam, 1 to 5 percent slopes	0.1	0.0%
179	Wanship-Kovich loams, 0 to 3 percent slopes	139.0	33.6%
182	Yeates Hollow-Henefer complex, 30 to 60 percent slopes	36.8	8.9%
Totals for Area of Interest		**413.1**	**100.0%**

Map Unit Descriptions (Peoa Soil Map)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties

126—Echocreek loam, 2 to 10 percent slopes

Map Unit Setting

National map unit symbol: k1sl
Elevation: 5,400 to 7,400 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 70 to 100 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Echocreek and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Echocreek

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone, quartzite and shale

Typical profile

Ap - 0 to 7 inches: loam
A1 - 7 to 18 inches: loam
A2 - 18 to 26 inches: loam
Bk1 - 26 to 38 inches: loam
Bk2 - 38 to 45 inches: loam
Bk3 - 45 to 60 inches: loam

Properties and qualities

Slope: 2 to 10 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: B
Ecological site: Upland Loam (Basin Wildrye) (R047XA310UT)
Hydric soil rating: No

Minor Components

Kovich

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Interzonal Wet Fresh Meadow (Sedge) (R047XA008UT)
Hydric soil rating: Yes

Toddspan

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Interzonal Wet Fresh Meadow (Sedge) (R047XA008UT)
Hydric soil rating: Yes

Wanship

Percent of map unit: 3 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Interzonal Cold Semiwet Fresh Meadow (Meadow Sedge/Tufted Hairgrass) (R047XA004UT)
Hydric soil rating: No

Snyderville

Percent of map unit: 3 percent
Landform: Stream terraces, outwash terraces
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Gravelly Loam (Mountain Big Sagebrush) (R047XA406UT)
Hydric soil rating: No

Dastrup

Percent of map unit: 2 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Upland Loam (Basin Big Sagebrush) (R047XA308UT)
Other vegetative classification: Upland Loam (Mountain Big Sagebrush) (047XA308UT_2)
Hydric soil rating: No

146—Horrocks-Hades complex, 30 to 60 percent slopes

Map Unit Setting

National map unit symbol: k1t6
Elevation: 5,800 to 8,200 feet
Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 60 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Horrocks and similar soils: 65 percent
Hades and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Horrocks

Setting

Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium derived from sandstone, conglomerate and andesite

Typical profile

A - 0 to 10 inches: very cobbly loam
Bt1 - 10 to 19 inches: very cobbly clay loam
Bt2 - 19 to 32 inches: very cobbly clay loam
Bt3 - 32 to 40 inches: very cobbly clay loam
BC - 40 to 59 inches: very gravelly loam
R - 59 to 60 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Mountain Stony Loam (Mountain Big Sagebrush) (R047XA461UT)
Hydric soil rating: No

Description of Hades

Setting

Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Colluvium derived from sandstone, quartzite and shale

Typical profile

A1 - 0 to 3 inches: loam
A2 - 3 to 18 inches: loam
Bt1 - 18 to 33 inches: clay loam
Bt2 - 33 to 44 inches: clay loam
Bt3 - 44 to 60 inches: clay loam

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 3 percent
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Mountain Loam (Oak) (R047XA432UT)
Hydric soil rating: No

Minor Components

Cutoff

Percent of map unit: 5 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Upland Stony Loam (Mountain Big Sagebrush) (R047XA334UT)
Other vegetative classification: Upland Stony Loam (Mountain Big Sagebrush) (047AY334UT)
Hydric soil rating: No

Heiners

Percent of map unit: 5 percent
Landform: Ridges on mountain slopes
Down-slope shape: Linear, convex
Across-slope shape: Convex
Ecological site: Upland Shallow Loam (Wyoming Big Sagebrush) (R047XA320UT)
Other vegetative classification: Upland Shallow Loam (Mountain Big Sagebrush) (047XA320UT_1)
Hydric soil rating: No

Yeates hollow

Percent of map unit: 5 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Stony Loam (Mountain Big Sagebrush) (R047XA461UT)
Hydric soil rating: No

154—Manila-Ant Flat loams, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: k1tk
Elevation: 6,200 to 7,800 feet
Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 60 to 90 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Manila and similar soils: 50 percent
Ant flat and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manila

Setting

Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Slope alluvium derived from conglomerate, sandstone and shale

Typical profile

A1 - 0 to 4 inches: loam
A2 - 4 to 15 inches: loam
Bt1 - 15 to 22 inches: clay loam
Bt2 - 22 to 40 inches: clay
Bt3 - 40 to 46 inches: gravelly clay
Bt4 - 46 to 60 inches: clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: Mountain Loam (Mountain Big Sagebrush) (R047XA430UT)
Hydric soil rating: No

Description of Ant Flat

Setting

Landform: Fan remnants
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Slope alluvium derived from conglomerate, sandstone and shale

Typical profile

A - 0 to 13 inches: loam
Bt1 - 13 to 19 inches: clay loam
Bt2 - 19 to 30 inches: clay
Bk1 - 30 to 45 inches: clay loam
Bk2 - 45 to 60 inches: clay loam

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: Mountain Loam (Mountain Big Sagebrush) (R047XA430UT)
Hydric soil rating: No

Minor Components

Henefer

Percent of map unit: 10 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Mountain Loam (Oak) (R047XA432UT)
Hydric soil rating: No

Horrocks

Percent of map unit: 5 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Stony Loam (Mountain Big Sagebrush) (R047XA461UT)
Hydric soil rating: No

174—Snyderville cobbly loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: k1v5
Elevation: 5,400 to 8,400 feet
Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 60 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Snyderville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Snyderville

Setting

Landform: Outwash terraces, stream terraces
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium and outwash derived from sandstone, conglomerate and quartzite

Typical profile

A1 - 0 to 10 inches: cobbly loam
A2 - 10 to 16 inches: cobbly loam
Bt - 16 to 28 inches: very cobbly loam
2C - 28 to 35 inches: very cobbly loamy sand
3C - 35 to 60 inches: extremely cobbly sand

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum in profile: 3 percent
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: Mountain Gravelly Loam (Mountain Big Sagebrush) (R047XA406UT)
Hydric soil rating: No

Minor Components

Harter

Percent of map unit: 5 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Loam (Mountain Big Sagebrush) (R047XA430UT)
Hydric soil rating: No

Toddspan

Percent of map unit: 5 percent
Landform: Valley floors, flood plains
Down-slope shape: Linear
Across-slope shape: Convex, concave
Ecological site: Interzonal Wet Fresh Meadow (Sedge) (R047XA008UT)
Hydric soil rating: Yes

Wanship

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Interzonal Cold Semiwet Fresh Meadow (Meadow Sedge/Tufted Hairgrass) (R047XA004UT)
Hydric soil rating: No

179—Wanship-Kovich loams, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: k1v8
Elevation: 5,200 to 8,000 feet
Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 60 to 90 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Wanship and similar soils: 55 percent

Kovich and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wanship

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone and conglomerate

Typical profile

A1 - 0 to 8 inches: loam
A2 - 8 to 14 inches: loam
A3 - 14 to 24 inches: loam
2C1 - 24 to 26 inches: extremely cobbly loamy sand
2C2 - 26 to 60 inches: extremely cobbly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 20 to 30 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B
Ecological site: Interzonal Cold Semiwet Fresh Meadow (Meadow Sedge/Tufted Hairgrass) (R047XA004UT)
Hydric soil rating: No

Description of Kovich

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Alluvium derived from sandstone, quartzite and shale

Typical profile

A1 - 0 to 9 inches: loam
A2 - 9 to 22 inches: clay loam
A3 - 22 to 29 inches: clay loam
2C - 29 to 44 inches: fine sandy loam
3C - 44 to 60 inches: very gravelly loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.1 inches)

Interpretive groups
Land capability classification (irrigated): 6w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: Interzonal Wet Fresh Meadow (Sedge) (R047XA008UT)
Hydric soil rating: Yes

Minor Components

Toddspan
Percent of map unit: 6 percent
Landform: Valley floors, flood plains
Down-slope shape: Linear
Across-slope shape: Convex, concave
Ecological site: Interzonal Wet Fresh Meadow (Sedge) (R047XA008UT)
Hydric soil rating: Yes

Snyderville
Percent of map unit: 5 percent
Landform: Outwash terraces, stream terraces
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Gravelly Loam (Mountain Big Sagebrush) (R047XA406UT)
Hydric soil rating: No

Dastrup
Percent of map unit: 4 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Upland Loam (Basin Big Sagebrush) (R047XA308UT)
Other vegetative classification: Upland Loam (Mountain Big Sagebrush) (047XA308UT_2)
Hydric soil rating: No

182—Yeates Hollow-Henefer complex, 30 to 60 percent slopes

Map Unit Setting
National map unit symbol: k1v9
Elevation: 5,600 to 8,400 feet

Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 60 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Yeates hollow and similar soils: 55 percent
Henefer and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yeates Hollow

Setting

Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium derived from conglomerate, sandstone and quartzite

Typical profile

A - 0 to 12 inches: very stony loam
Bt1 - 12 to 25 inches: very cobbly clay
Bt2 - 25 to 37 inches: very cobbly clay
Bt3 - 37 to 43 inches: extremely cobbly clay loam
R - 43 to 53 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Mountain Stony Loam (Mountain Big Sagebrush) (R047XA461UT)
Hydric soil rating: No

Description of Henefer

Setting

Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from quartzite, sandstone and shale

Typical profile

A1 - 0 to 7 inches: gravelly loam
A2 - 7 to 12 inches: gravelly loam
Bt1 - 12 to 21 inches: cobbly clay

Bt2 - 21 to 30 inches: cobbly clay
Bt3 - 30 to 37 inches: very gravelly clay loam
Bt3 - 37 to 43 inches: very gravelly clay loam
Bt5 - 43 to 50 inches: very cobbly sandy clay loam
Bt5 - 50 to 60 inches: very cobbly sandy clay loam

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Mountain Loam (Oak) (R047XA432UT)
Hydric soil rating: No

Minor Components

Fewkes

Percent of map unit: 6 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Loam (Mountain Big Sagebrush) (R047XA430UT)
Hydric soil rating: No

Heiners

Percent of map unit: 5 percent
Landform: Ridges on mountain slopes
Down-slope shape: Convex, linear
Across-slope shape: Convex
Ecological site: Upland Shallow Loam (Wyoming Big Sagebrush) (R047XA320UT)
Other vegetative classification: Upland Shallow Loam (Mountain Big Sagebrush) (047XA320UT_1)
Hydric soil rating: No

Rock outcrop

Percent of map unit: 4 percent
Landform: Ridges on mountain slopes, escarpments on mountain slopes
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

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Appendix C. Water Resource Assessment

Water Resources Assessment

Peoa South Bench – Ditch Piping Project

Summit County, Utah

Prepared for

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

Prepared by

J-U-B ENGINEERS, Inc.
392 E. Winchester St., Suite 300
Salt Lake City, Utah 84107

J·U·B ENGINEERS, INC.

May 2020

Introduction

J-U-B ENGINEERS, Inc. (J-U-B) conducted a water resources assessment (WRA) on October 16, 2019 and April 28, 2020 for the proposed Peoa South Bench – Ditch Piping Project (Proposed Project). The Proposed Project would occur near the community of Peoa and Oakley City in Summit County, Utah. The Proposed Project is contained within Sections 19 and 20, Township 1 S, Range 6 E; and, Section 24, Township 1 S, Range 5 E, Salt Lake Meridian (See Attached Vicinity Map; and Project Exhibit).

The purpose of the Proposed Project is to improve water use efficiency by reducing the amount of water lost to seepage and evaporation. This WRA was prepared on behalf of the Peoa South Bench Ditch Company (PSBDC) for the U.S. Department of the Interior's Bureau of Reclamation (Reclamation). Summit County and the PSBDC secured funding for the Proposed Project through Reclamation's WaterSMART program. The objective of this WRA was to document the Waters of the U.S., including wetlands, if present within the Proposed Project Action Area (Action Area).

Description of the Action Area

The Proposed Project would pipe the entirety (approximately five linear miles) of the Peoa South Bench Canal (See Attached Project Exhibit). The Proposed Project would pipe and pressurize the existing ditch with new 32-inch diameter high-density polyethylene (HDPE) and 27-inch polyvinyl chloride (PVC) pipe. The piping would start at the diversion location at the existing Parshall flume and would follow a modified alignment. The modified alignment would travel in a straight line following existing property lines, fence lines, and existing access roads, thus reducing the length of pipe and impacting a minimal amount of arable land. The modified alignment would also deliver water to a more centralized location relative to the land being irrigated. A metering system would be installed near the diversion location to account for the volume of water diverted from the Weber River and to establish a baseline for shareholder use. Individual meters would be installed along the pipeline. A fish screen would be installed at the diversion location to reduce the likelihood of aquatic life entering the irrigation pipe.

Construction would occur outside of the irrigation season so that no water would be present in the canal during pipeline construction. It is anticipated that the Proposed Project would meet the requirements for an agricultural exemption under Section 404(f) of the Clean Water Act. The Proposed Project would not alter the use of the irrigation waters in the new pipeline. Water would continue to be used for irrigation, and no extension of the water's current reach is planned. Pending environmental approval, the Proposed Project would be implemented in Fall 2020 and completion is anticipated for Spring 2021.

Methods

The WRA was conducted in accordance with the 1987 U.S. Army Corps of Engineers' *Wetland Delineation Manual* and the *Arid West Region* supplement (Version 2.0). Based on aerial imagery, the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI), and site conditions in the field, any location with the potential to contain Waters of the U.S., or to support wetlands, was surveyed further. JUB assessed the entire Action Area based on topography, presence or absence of dominant hydrophytic vegetation, and surface hydrology. If vegetation indicated any potential for hydric conditions, soil pit analysis was conducted and the results documented in accordance with the U.S. Army Corps of Engineers' *Arid West Region* supplement.

Delineation Methodology for Non-wetland Waters of the U.S.

Non-wetland Waters of the U.S. (WOTUS) were delineated by using 1-foot interval contour lines and aerial imagery to determine the location of the Ordinary High Water Mark (OHWM). These delineated features are an approximation of the ephemeral streams that exist within the survey area and should be field verified prior to permitting.

Environmental Setting and Evaluation

The Proposed Project is located within the Upper Weber Sub-Basin (HUC 16020101) within the Weber River Basin. The Weber River, Echo Reservoir, and Rockport Reservoir are the primary hydrologic features of the Upper Weber Sub-Basin. More specifically, the Proposed Project is located within the 12th-order sub-watersheds: Browns Canyon-Upper Weber River (160201010401), and Whites Creek-Upper Weber River (160201010206). The Weber River flows through both of these sub-watersheds, resulting in a drainage area of approximately 175 square miles (EPA 2020).

The canal originates east of Oakley City at a diversion structure on the Weber River. The existing canal is an open, unlined ditch that conveys irrigation water to a number of agricultural users in the surrounding area. The Proposed Project would be contained to a modified alignment that generally follows the existing canal, and staging areas would be located in an upland position in adjacent livestock yards, fallow fields, and gravel lots. Elevation along the project alignment ranges from 6,417 feet AMSL to 6,547 feet AMSL. For representative photos of the Action Area, see the included Photo Inventory.

Climate

The Weber River Basin is one of Utah's wettest basins, receiving approximately 16.50 inches of precipitation annually. The average temperature in the vicinity of the action area is 44.1°F, with average highs reaching 85.7°F in the summer and average lows falling to 12.6°F in the winter. The Kamas, UT weather station (the closest active station to the Action Area) typically receives 87.5 inches of snowfall each year (FIPS 49043; NOAA Regional Climate Centers 2020).

Vegetation

The vegetative community within the Action Area is dominated by reed canarygrass (*Phalaris arundinacea*), Johnsongrass (*Sorghum halepense*), orchardgrass (*Dactylis glomerata*), Russian olive (*Elaeagnus angustifolia*), willow (*Salix spp.*), and boxelder maple (*Acer negundo*). Staging areas were dominated by weedy, upland and agricultural species such as alfalfa (*Medicago sativa*), field bindweed (*Convolvulus arvensis*), and ornamental grasses.

Soils

A variety of soils are found throughout the Action Area. Soils in the Action Area are predominantly loamy in texture. The dominant soil types in the Action Area are Wanship-Kovich loams, 0 to 3 percent slopes (33.6%); Manila-Ant Flat loams, 2 to 8 percent slopes (33.3%); and Echocreek loam, 2 to 10 percent slopes (22.5%). The majority of these soils are non-hydric (rating of 0 out of 100), however, Wanship-Kovich loams have a hydric rating of 35 out of 100, and Echocreek loam has a rating of 7 out of 100 (See Attached Soil Maps).

Table 1 – NRCS Soil Types Mapped within the Survey Area

Soil Series Name	Hydric	Percent of Survey Area
Echocreek-Kovich loams, 2 to 10 percent slopes	Yes - 7% hydric	8.5%
Horrocks-Cutoff complex, 30 to 60 percent slopes	No - 0% hydric	0.7%
Manila-Ant Flat loams, 2 to 8 percent slopes	No - 0% hydric	71.9%
Yeates Hollow-Henefer complex, 30 to 60 percent slopes	No - 0% hydric	10.9%
Wanship-Kovich loams, 0 to 3 percent slopes	Yes - 36% hydric	7.9%
Total		**100%**

NWI Mapping

The USFWS NWI suggests that the Action Area may contain a number of riverine, freshwater emergent, and freshwater forested/shrub wetlands, the majority of which are associated with the existing canal, excavated irrigation ditches, and impounded ponds for livestock (See Attached NWI Maps). In the eastern extent of the Action Area, the NWI illustrates freshwater forested/shrub wetlands associated with the Weber River.

FEMA

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the Action Area is mostly within Flood Zone X (Area of Minimal Flood Hazard), however portions of the eastern end of the Proposed Project are within Flood Zone A (Special Flood Hazard Areas)[see attached FEMA FIRM Map].

Findings

One Upper Perennial Stream (Weber River) totaling 1,018 linear feet (0.97 acres) was identified adjacent to the Action Area. One canal (Peoa South Bench Canal) totaling 23,884 linear feet was identified within the Action Area. No wetlands or other Waters of the U.S. (WOTUS) were identified within the Action Area.

Table 2 – Aquatic Resources

Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acres)	Aquatic Resource Size (linear feet)
	Cowardin	Sample Point		
Weber River	R3UB1H	SC01 and SC06	0.97	1,018
Peoa South Bench Canal		SC02-SC05 and SC07-SC13	-	23,884
Total			0.97	24,902

Weber River – R3UB1H (*Riverine, Upper Perennial, Unconsolidated Bottom, Cobble-Gravel, Permanently Flooded)*

A total of 1,018 linear feet of the Weber River's OHWM were delineated near the headwaters of the Peoa South Bench Canal. Near the Action Area, the Weber River is an upper perennial stream that is permanently flooded and whose streambed consists of cobble and gravel. This section of the river is also heavily armored with rip-rap. No wetlands were identified along this section of the river.

Peoa South Bench Canal

The Action Area contains one canal (Peoa South Bench Canal) totaling 23,884 linear feet. The headwaters of the canal occur east of Oakley City at a diversion structure on the Weber River. Some hydrophytic vegetation was found along portions of the canal banks; however, no hydric soil indicators were found. Water conveyed by the canal is completely consumed for irrigation prior to reconnecting with the Weber River. Additionally, no OHWM was found west of the canal terminus as mapped in the attached Aquatic Resource Delineation Map.

Conclusions

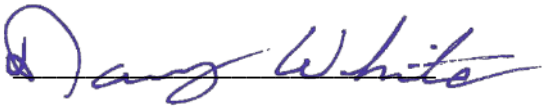
The Proposed Project would pipe approximately five linear miles of the Peoa South Bench Canal located in Summit County, Utah. The purpose of the Proposed Project is to improve water use efficiency by reducing the amount of water lost to seepage and evaporation.

Surface hydrology associated with the canal was observed in the Action Area but no wetlands were present. The canal would not be considered jurisdictional waters given its lack of connectivity to the Weber River and the land it crosses is upland. Jurisdictional status should be confirmed with the USACE through a pre-application meeting prior to permitting.

If, however, it is determined that the Proposed Project will impact Waters of the U.S., including wetlands, the construction would occur outside of the irrigation season when there is no water in the canal. Due to the fact that the canal lacks a downstream connection to the Weber River, and piping the canal would likely be considered a maintenance activity or agriculturally exempt, and because construction activities would occur outside of the irrigation season when the canal is dry, the Proposed Project would not be anticipated to require a permit under the Clean Water Act (CWA). It should be noted that the final authority regarding impacts to Waters of the U.S., and permit authorizations rests with the appropriate regulatory agencies.

If you have any questions regarding this report, please contact me. I may be reached at dwhite@jub.com, or on my office phone at 435-713-9514.

Respectfully submitted by:



Date: May 20, 2020

Danny White, Wetland Scientist
J-U-B Engineers, Inc.

Attachments

1. Water Resource Delineation Maps
2. Data Sheets and Photo Inventory
3. NWI Map
4. Soils Map
5. Flood Hazard Map

References

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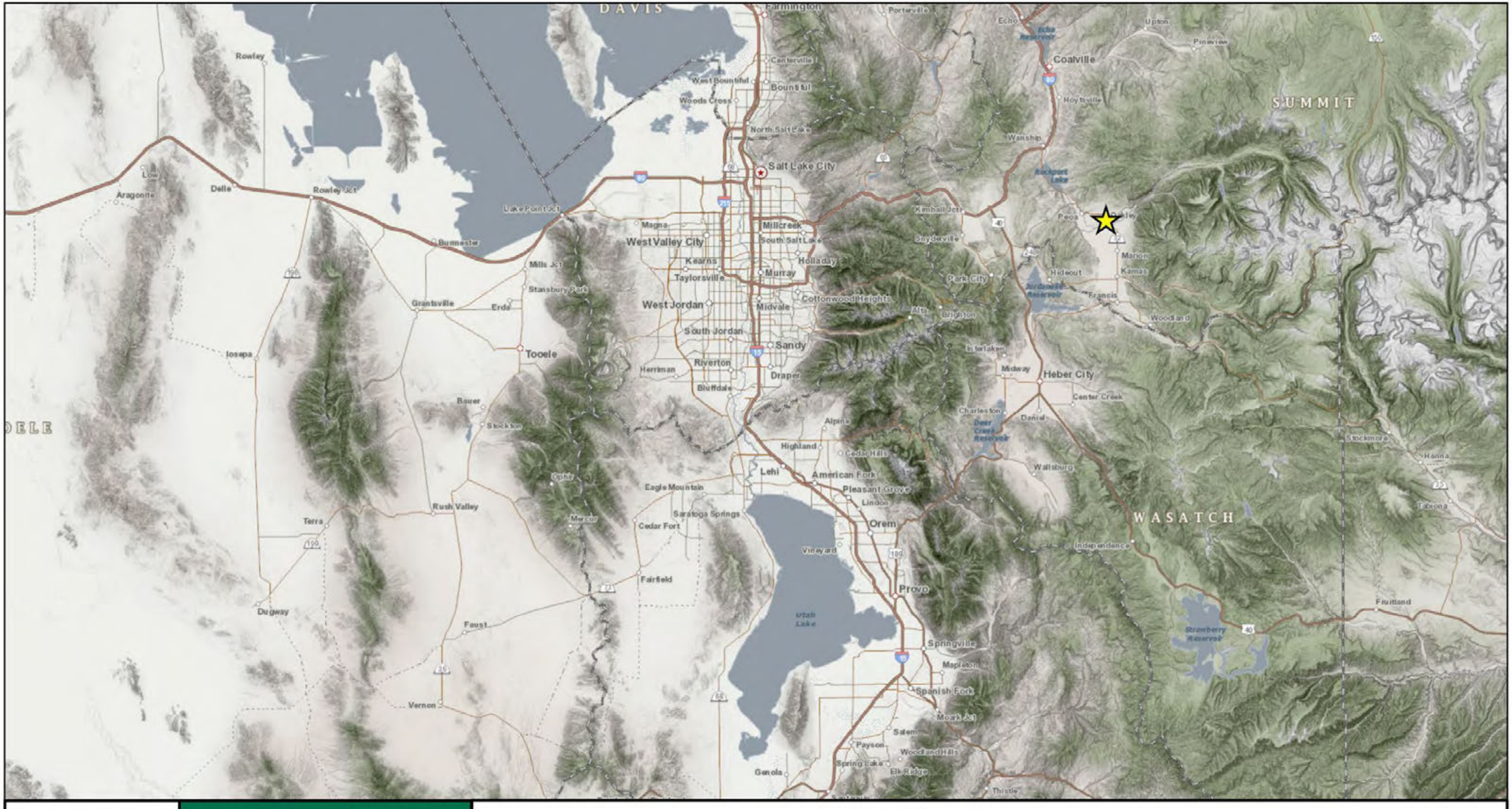
Water Resource Assessment Attachment 1. Water Resource Delineation Maps



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Vicinity Map

Peoa South Bench Ditch Piping Project

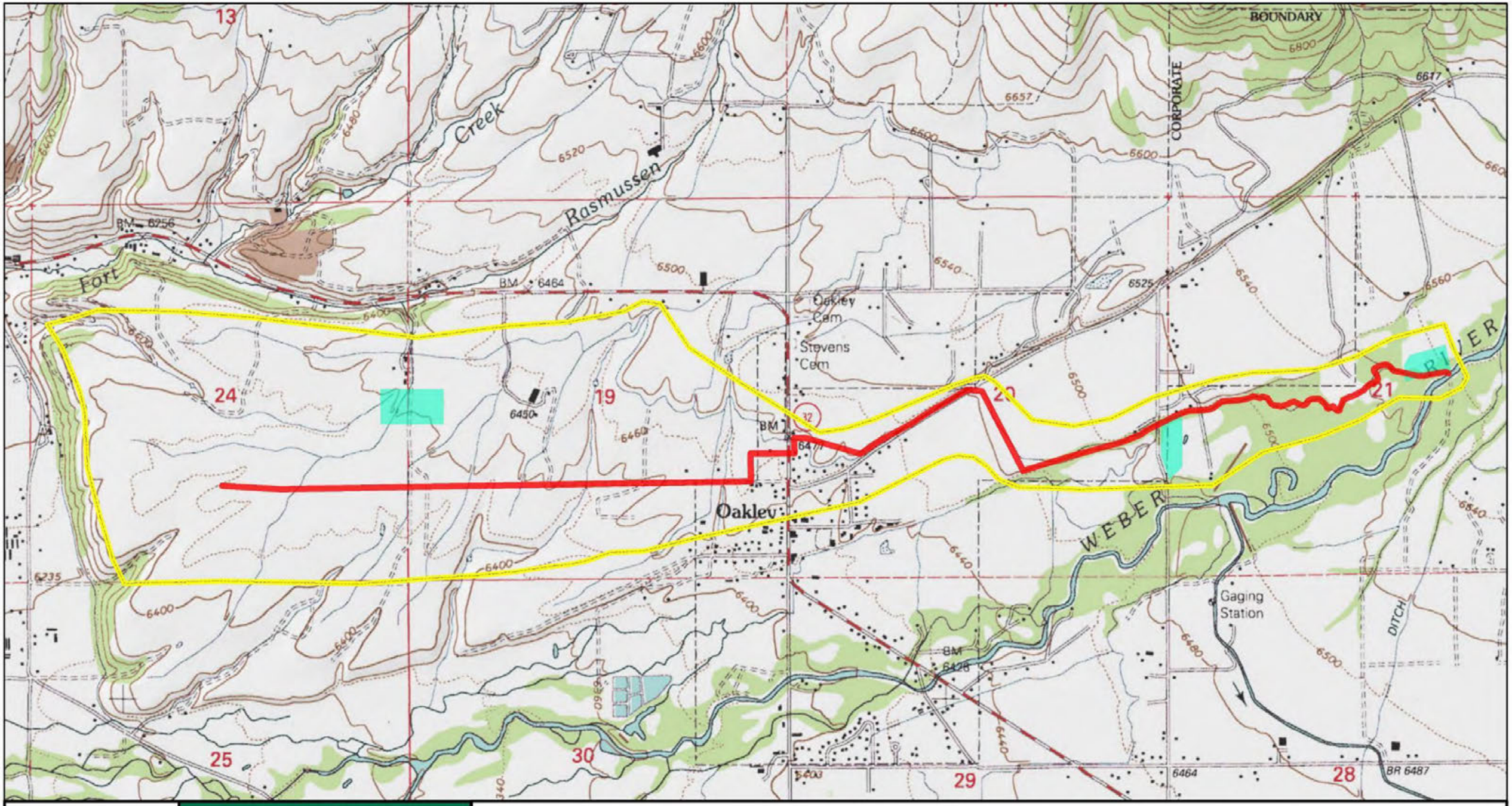
N

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

0 5 10 20 Miles

Legend

Project Location



Topo Map

Peoa South Bench Ditch Piping Project

J·U·B ENGINEERS, INC.

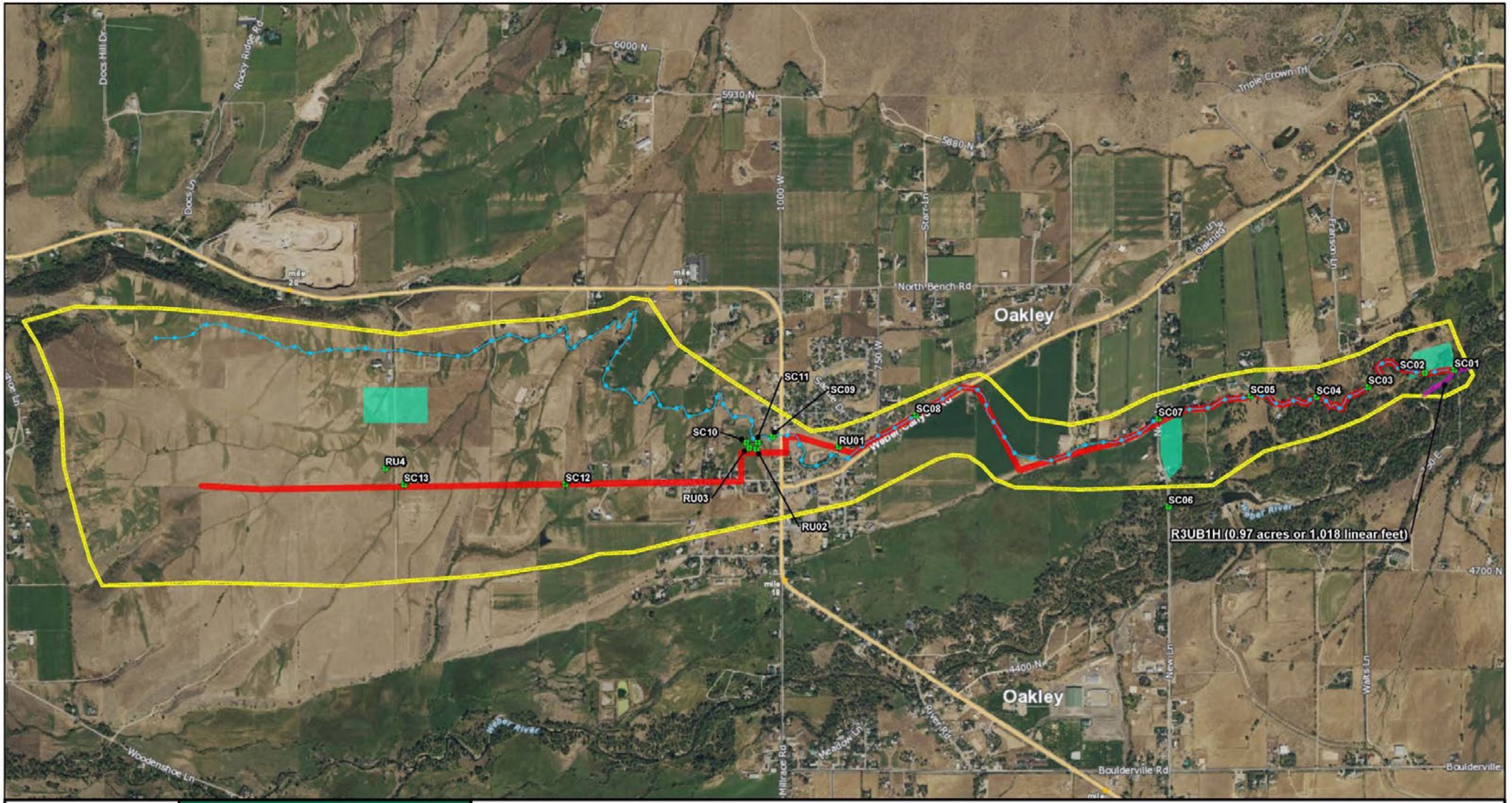
N

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

0 0.15 0.3 0.6 Miles

Legend

- Project Action Area/ Canal Piping Alignment (20,142 LF)
- Staging Areas
- Survey Area



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Wetland Delineation

Peoa South Bench Ditch Piping Project

N

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

0 800 1,600 3,200 Feet

Legend

- Survey Area
- Photo Points
- Weber River OHWM (0.97 AC or 1,018 LF)
- Staging Areas
- Project Action Area/ Canal Piping Alignment (20,142 LF)
- Peoa South Bench Canal (23,844 LF)

Water Resource Assessment Attachment 2. Data Sheets and Photo Inventory

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Peoa South Bench – Ditch Piping Project
Project Number:
Stream: Weber River
Investigator(s): D. White

Date: 4/28/2020 **Time:** 9:30 AM
Town: Oakley **State:** Utah
Photo begin file#: SC01 **Photo end file#:** SC01

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details:

Projection: **Datum:**
Coordinates: LAT: 40°43'14.85"N LONG: 111°16'0.88"W

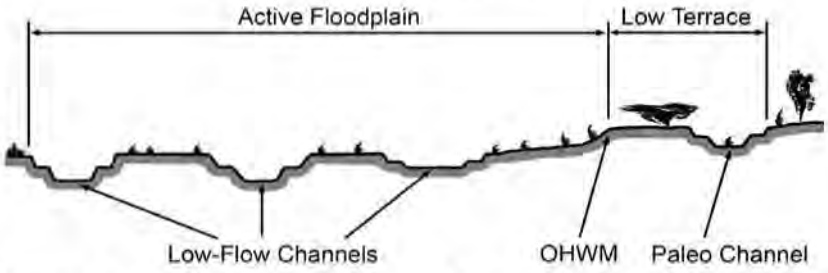
Potential anthropogenic influences on the channel system:
The delineated section of the Weber River is heavily armored with rip-rap.

Brief site description:
The width of the river is approximately 41'. The bank is armored with rip-rap up to 3' above the OHWM. Some hydrophytic vegetation was observed above the OHWM but lacked hydric soil indicators.

Checklist of resources (if available):

- [X] Aerial photography
  Dates:
- [ ] Topographic maps
- [ ] Geologic maps
- [ ] Vegetation maps
- [ ] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [X] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

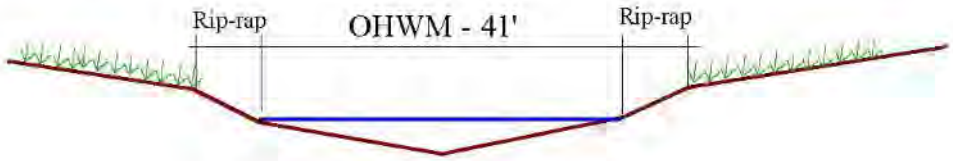


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [X] GPS
   - [X] Digitized on computer
   - [ ] Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- [X] Change in average sediment texture
- [X] Change in vegetation species
- [X] Change in vegetation cover
- [X] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit:

[X] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: SC01

Characteristics of the floodplain unit:

Average sediment texture: Sandy Loam

Total veg cover: 95 % Tree: 35 % Shrub: ____ % Herb: 60 %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [X] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [X] Drift and/or debris
- [X] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [X] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

SC01 | Typical Conditions | Northeast

SC01 | Typical Conditions | South

SC01 | Typical Conditions | Southwest

SC02 | Typical Conditions | East

SC02 | Typical Conditions | West

SC03 | Typical Conditions | Northeast

SC03 | Typical Conditions | Southwest

SC04 | Typical Conditions | North

SC05 | Typical Conditions | West

SC06 | Typical Conditions | West

SC07 | Typical Conditions | Northeast

SC08 | Typical Conditions | Northeast

SC09 | Typical Conditions | West

SC09 | Typical Conditions | East

SC10 | Typical Conditions | North

SC10 | Typical Conditions | South

SC11 | Typical Conditions | East

SC11 | Typical Conditions | West

SC12 | Typical Conditions | West

SC13 | Typical Conditions | South

RU01 | Typical Conditions | West

RU02 | Typical Conditions | South

RU02 | Typical Conditions | North

RU02 | Typical Conditions | East

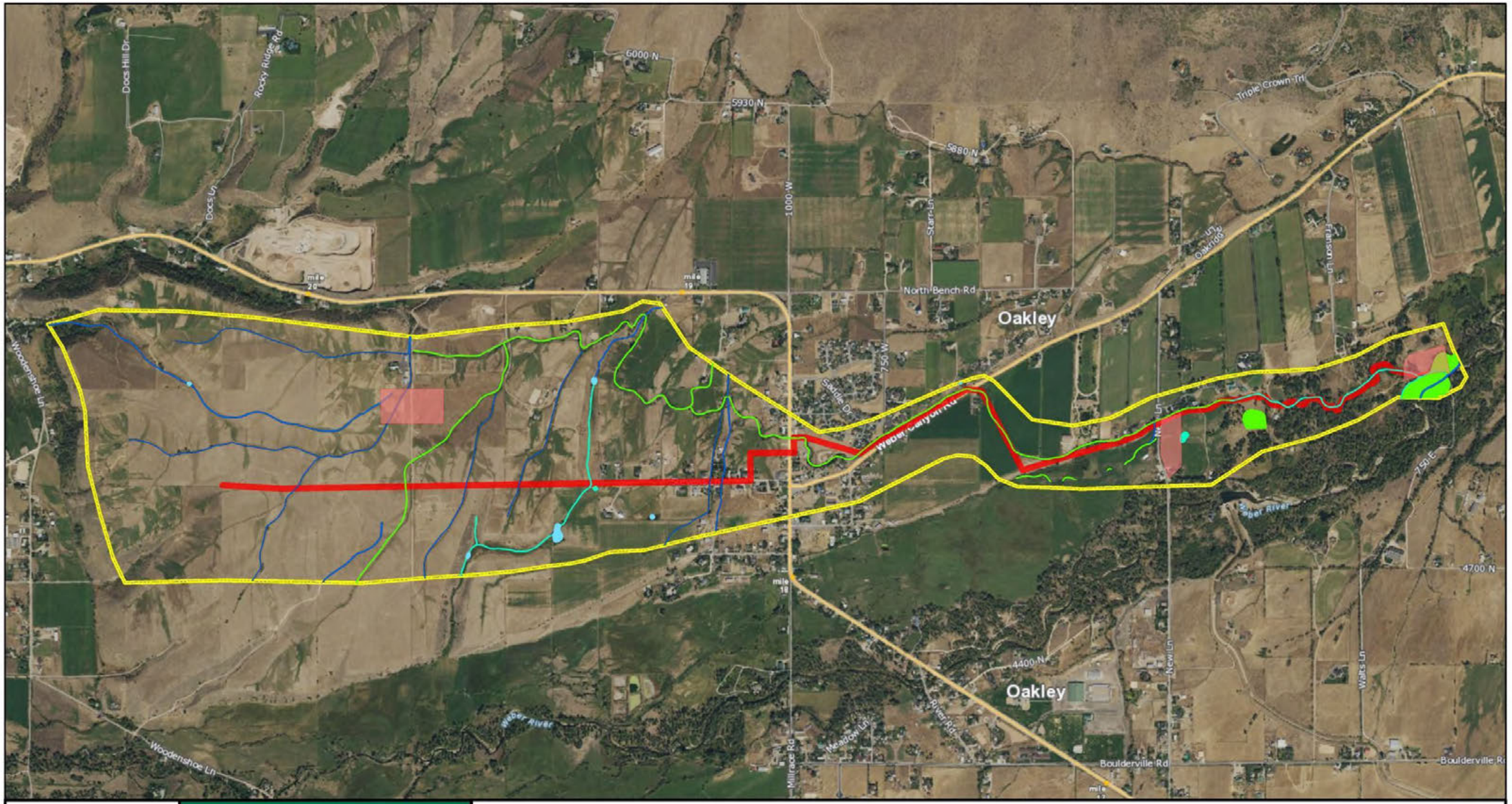
RU03 | Typical Conditions | South

RU03 | Typical Conditions | North

RU04 | Typical Conditions | West

RU04 | Typical Conditions | East

Water Resource Assessment Attachment 3. NWI Map



J·U·B ENGINEERS, INC.

NWI Map

Peoa South Bench Ditch Piping Project

N

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

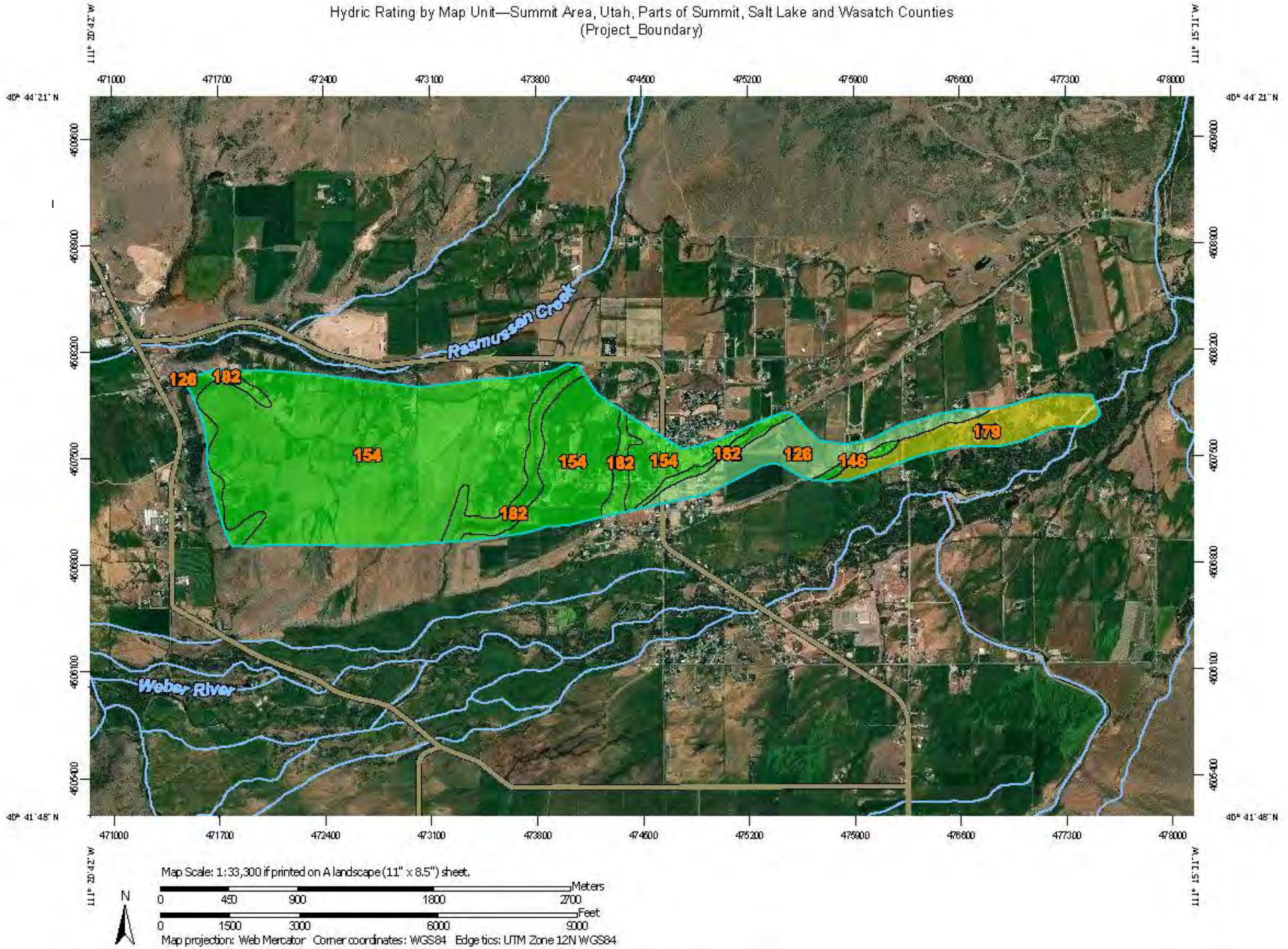
0 0.15 0.3 0.6 Miles

Legend

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- Project Action Area/ Canal Piping Alignment (20,142 LF)
- Survey Area
- Staging Areas

Water Resource Assessment Attachment 4. Soils Map

Hydric Rating by Map Unit—Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties
(Project_Boundary)



Map Scale: 1:33,300 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 450 900 1800 2700

Feet
0 1500 3000 6000 9000

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
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties
Survey Area Data: Version 11, Sep 16, 2019

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

Date(s) aerial images were photographed: Jun 14, 2016—Nov 8, 2017

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.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
126	Echocreek loam, 2 to 10 percent slopes	7	80.7	8.5%
146	Horrocks-Hades complex, 30 to 60 percent slopes	0	6.7	0.7%
154	Manila-Ant Flat loams, 2 to 8 percent slopes	0	679.5	71.9%
179	Wanship-Kovich loams, 0 to 3 percent slopes	36	74.6	7.9%
182	Yeates Hollow-Henefer complex, 30 to 60 percent slopes	0	103.1	10.9%
Totals for Area of Interest			**944.6**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

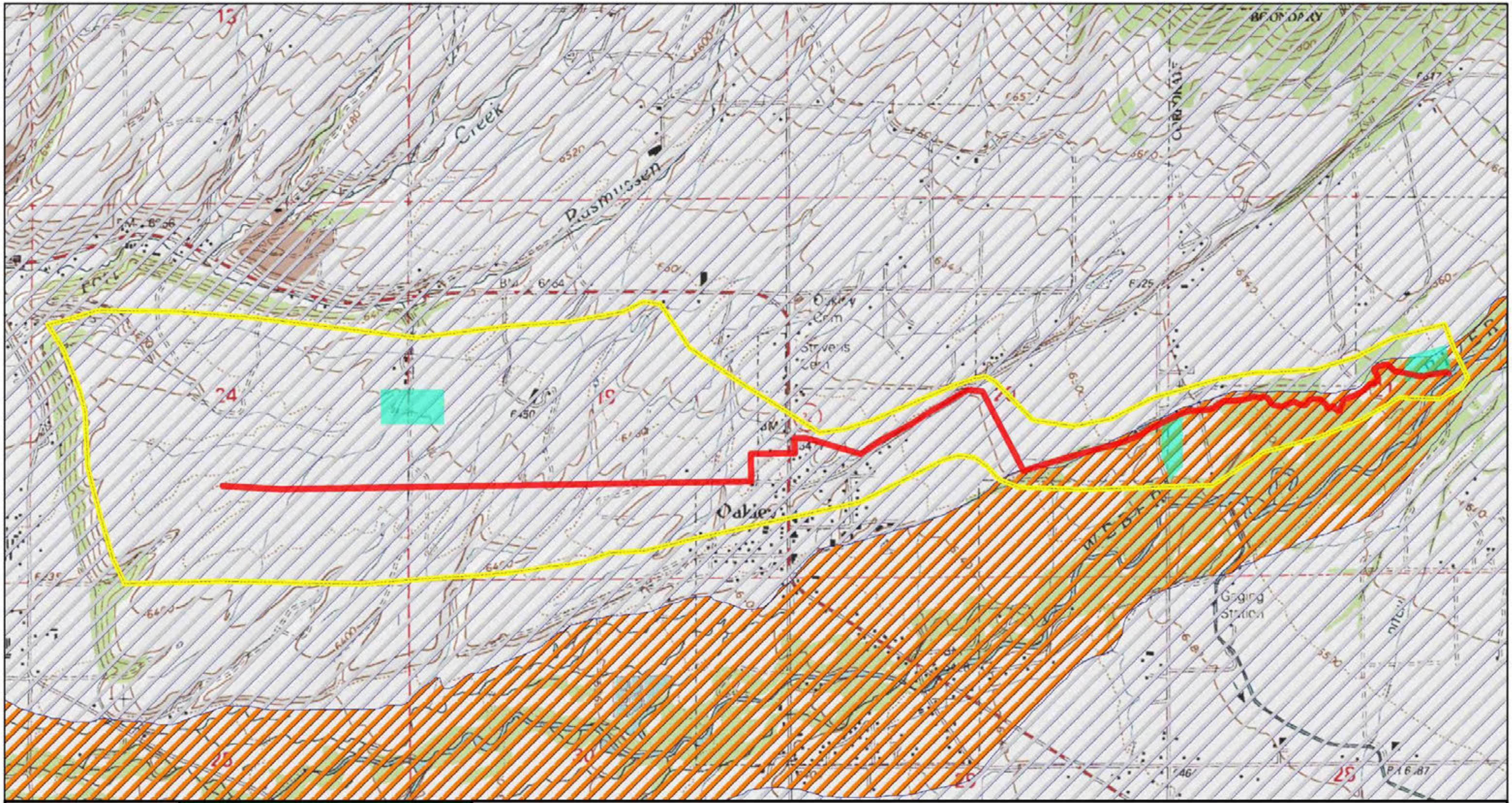
Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Water Resource Assessment Attachment 5. Flood Hazard Map



J·U·B
J·U·B ENGINEERS, INC.

Flood Hazard Map

Peoa South Bench Ditch Piping Project

N

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

0 0.15 0.3 0.6 Miles

Legend

- Project Action Area/ Canal Piping Alignment
- Staging Areas
- Survey Area
- A - Special flood hazard areas subject to inundation by the 1% annual chance flood event. No base flood elevations determined.
- X - Areas of 0.2% annual chance of

Appendix D. Coordination and Consultation

To: Weber River Partnership
Mr. Paul Thompson
Species Recovery Programs Deputy Director
Utah Department of Natural Resources

Subject: Peoa South Bench Canal Piping and Metering Project

The Bureau of Reclamation (Reclamation) and the South Bench Canal and Irrigation Company (South Bench) are proposing to implement a canal piping and metering project. The project would use federal funds to pipe approximately 3.74-miles of an unlined irrigation canal through Oakley and Peoa in Summit County, Utah (see attached Project Map).

The canal currently diverts approximately 5,477 acre-feet of water annualy from the Weber River to service the South Bench Irrigation Company's 28 shareholders. The diverted water is used to irrigate approximately 756-acres of land for agricultural production. A water loss study conducted in 2017 by the United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) determined that approximately 48% of the diverted water was lost to seepage along the canal alignment, resulting in an average annual loss of 2,629 acre-feet of water. The proposed project would pipe and pressurize the canal along a modified alignment to eliminate seepage losses and improve irrigation efficiency. Additionally, piping and pressurizing the canal would allow shareholders to transition from flood irrigation to sprinkler irrigation, which would result in additional water conservation and reduce agricultural runoff contributing to the degraded water quality in the Weber River. Construction of the proposed project would begin in the fall of 2020 and would be completed in 2021, pending environmental approval.

A supervisory control and data acquisition (SCADA) system and system meter would be installed, as well as a micro-hydropower system to provide necessary power, at the existing control structure, located approximately 450 feet from the diversion structure. The existing control structure would be removed. The pipeline would follow a new alignment and would bypass the Oakley Parshall Flume, located approximately 250 feet from the control structure. The Oakley Parshall Flume would be abandoned. The pipe would be installed in the existing canal alignment for approximately 1.6 miles and then would follow a new alignment for approximately 2.14 miles. The proposed project would be located adjacent to the Weber River. No in stream work is planned and the only improvements near the Weber River would be the installation of a fish screen at the diversion structure.

Reclamation will prepare an environmental assessment (EA) as required by the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ), and NEPA implementing regulations. The EA will analyze potential environmental impacts of implementing the Proposed Project. If potentially significant impacts to the human environment are identified, an environmental impact statement (EIS) will be prepared. If no significant impacts are identified, Reclamation will issue a Finding of No Significant Impact (FONSI).

J-U-B Engineers, Inc. (JUB) has been contracted by South Bench to complete the project. As part of the EA process, we would like to notify you of the proposed project and solicit any questions or concerns you may have regarding the project, the scope of analysis, and give you the opportunity to raise specific issues. Please contact Derek Moss at dmoss@jub.com or at 801-543-9823 to provide any feedback. Thank you.

Respectfully,

Derek Moss
Environmental Planner
J-U-B Engineers, Inc

Enclosure: Project Map


Peoa South Bench Canal
Proposed Action
Peoa Canal
Canal Piping Alignment
Staging Areas
N
Oakley
Oakley
North Bench Rd
Triple Crown Trl
Millrace Rd
Boulderville Rd
0
0.25
0.5
Miles
JUB
THE LANGDON GROUP
GATEWAY MAPPING INC.

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
BRIAN C. STEED
Executive Director
Division of Wildlife Resources
MICHAL D. FOWLKS
Division Director

August 14, 2020

Derek Moss
Environmental Planner
J-U-B Engineers, Inc.

Subject: Peoa South Bench Canal Piping and Metering Project

Dear Mr. Moss:

As the Aquatics Habitat Restoration Biologist in Northern Utah for the Utah Division of Wildlife Resources (UDWR), I am pleased to write in support of the Peoa South Bench Canal Piping and Metering Project. I applaud your efforts to increase the efficiency of this canal system to conserve valuable water. All water savings in the Weber River are valuable to ensure that we have adequate water for future generations.

The Bonneville Cutthroat Trout are a native fish species found in portions of the Weber River. Bonneville Cutthroat Trout are covered by a conservation agreement the State of Utah has entered into with the U.S. Fish and Wildlife Service and other parties. The population status of this sensitive species warrants an additional conservation effort to diminish the likelihood of future listings under the Endangered Species Act. UDWR's approach to aquatic species conservation and management in the Weber River, in part, focuses on reconnecting and maintaining connectivity of priority habitats by removing unnecessary barriers to fish migration, or by modifying existing barriers to allow upstream movement of these species, particularly for Bonneville Cutthroat Trout. Naturally of course, stable and connecting flows between habitats are a fundamental requirement for those conservation actions to be successful. Within that context, most any project that enhances the continuity and maintenance of flows within the Weber River is a step in the right direction, as we work cooperatively to protect and conserve native species.

The Peoa South Bench Canal Company has been a great partner and has provided open dialogue on this project with UDWR and Trout Unlimited (TU). We are very excited regarding the screening and piping of the canal water to further reduce entrainment of trout into the irrigation system.

1594 West North Temple, Suite 2110, PO Box 146301, Salt Lake City, UT 84114-6301
telephone (801) 538-4700 • facsimile (801) 538-4709 • TTY (801) 538-7458 • *www.wildlife.utah.gov*

UTAH DNR WILDLIFE RESOURCES

Water saved by piping this reach of canal, 2,629 acre-feet, will benefit Bonneville Cutthroat Trout in the upper Weber River. The UDWR and TU are fully committed to partner with the Peoa South Bench Canal Company to ensure that the work on this section of canal is completed, thus allowing more water for fish use in lower reaches of the Weber River. This project will help ensure that Bonneville Cutthroat Trout do not become a federally listed species under the Endangered Species Act in the future.

Sincerely

Clint Brunson
Aquatics Habitat Restoration Biologist
Utah Division of Wildlife Resources

Baxter, Jared J

From: Reisor, Rita S
Sent: Tuesday, October 6, 2020 9:43 AM
To: Baxter, Jared J
Cc: Feltrop, Preston D; Abate, Paul
Subject: Re: ULT in Summit County

Hello Jared and Preston,

Thank you for taking the time to discuss this project this morning. This email is to follow up on our conversation regarding the proposed WaterSmart project in Summit County Utah along the Peoa South bench canal. Based on wetland and vegetation survey reports provided with the draft EA, areas along the canal are dominated by reed canary grass, orchard grass, Johnson grass, and woody species which are indicators that suitable Ute ladies'-tresses habitat is not present. In addition the wetlands field assessment did not identify hydric soils present in the action area, which are necessary to support Ute ladies'-tresses. After reviewing the draft environmental assessment, maps, wetland delineation, habitat description, and our conference call our office is in agreement with your assessment that habitat for the threatened Ute ladies'-tresses is not present in the action area.

As you have noted, Ute ladies'-tresses was not identified as a species of concern in Summit County by the USFWS IPaC system. Please note that the species was identified to be present in Summit County during this survey season. Our office is working on updating the information in the IPaC system to reflect this change. Until that update is completed, please be advised that the species may be present in Summit County and any projects occurring there should evaluate their potential impact to the species.
Please contact me with any further questions on this project or other projects with potential impacts.

Thank you for your due diligence on the project!

Rita Reisor
Botanist
USFWS Utah Ecological Services Field Office
Direct: (385)285-7923
Office: (801)975-3330
(she/her pronouns)

https://www.fws.gov/utahfieldoffice/
Please submit project requests to: utahfieldoffice_esa@fws.gov

---

From: Baxter, Jared J <jbaxter@usbr.gov>
Sent: Tuesday, September 29, 2020 12:06 PM
To: Reisor, Rita S <rita_reisor@fws.gov>
Cc: Feltrop, Preston D <pfeltrop@usbr.gov>
Subject: FW: ULT in Summit County

Rita,

I'm contacting you about some ULT discovery in Summit County by Bruce Glisson (see my questions to Bruce below). I talked to him over the phone after I sent that email. He said he had communicated with you and Mindy Wheeler at the State about the identification. We have a WaterSMART piping project in Summit County that we did not do surveys for because ULTs were not known to occur in the county prior to this flowering season…and it's still not widely known considering how recently I found out.
I'd like to have a discussion about the project and ESA requirements. Do you have time next week for a conversation? Also, here is a link to the EA if that helps: https://www.usbr.gov/uc/DocLibrary/EnvironmentalAssessments/20200700-PeoaSouthBenchCanalPipingMeteringProject-DraftEA-508-PAO.pdf.
Thanks,
Jared

Jared Baxter
NEPA Specialist
Interior Region 7: Upper Colorado Basin
Bureau of Reclamation
Provo Area Office
o: 801-379-1081
c: 385-225-7700

From: Baxter, Jared J
Sent: Thursday, September 24, 2020 8:36 PM
To: bglis@msn.com
Subject: ULT in Summit County

Hi Bruce,
I work for Reclamation and am the Bureau's lead for the NEPA on the Peoa South Bench Canal piping project. I'm running down a chain of folks from Jan Perkins to Douglas Clyde to you to get some information on the ULTs that were apparently observed in Summit County. I have a few questions if I may ask them.

1. Did you personally observe the ULTs? If not, can you tell me who it was?
2. What were the dates the individuals were observed?
3. Do you have photos and GPS locations?
4. Have you contacted the US Fish and Wildlife Service or the Utah Natural Heritage Program and submitted the information to them?

Thanks for your help!
Jared

Jared Baxter
NEPA Specialist
Interior Region 7: Upper Colorado Basin
Bureau of Reclamation
Provo Area Office
o: 801-379-1081
c: 385-225-7700

Appendix E. Response to Public Comments

Comment Number	Commentor(s)	Comment	Response
1	Robert Rydalch	Thanks for giving us the opportunity to provide you with our thoughts and comments regarding this project. Could you provide us with a schedule on the completion of this project?	See Section 2.3.1 of the environmental assessment. Construction of the Proposed Action is scheduled to start in late fall 2020. Construction would continue through the winter months and would be completed in 2021.
2	Frank Rydalch	I would assumed that when this project was approved the value of the crops raised was taken into account. Do you hav e something that shows what this amount is?	Reclamation's WaterSMART program does not require the environmental document evaluate the value of the crops raised. Rather, the environmental assessment considers how the proposed alternatives meet the purpose and need, which are to reduce water loss from seepage and improve efficiency of the water delivery system. The Proposed Action would meet the purpose and need: the Proposed Action would conserve 2,629 acre-feet of water from seepage. Installing individual meters would allow the irrigation company to: measure water use and water flows, thereby improving the management of water rights diverted from the Weber River.
3	Frank Rydalch Sandy Rydalch	In response to the Peoa South Bench Canal Piping and Metering Project, we do not feel this project is fiscally responsible and think is conflicts with the Bureau of Reclamation Mission Statement, also some of the footprint is on our property and we have never been notified. For these reasons, we are opposed to this project. The reason this project is not fiscally responsible is the cost of the project far exceeds the value of crops that are raised on the property irrigated by the Peoa South Bench Canal. The value of crops each year should be proven before this project is undertaken. This property is also described as prime farmland which is not correct because our growing season is far too short. This project conflicts with the Bureau of Reclamation Mission Statement "in the interest of the American public." This project does not benefit the general public, it benefits a few land owners by saving money in power bills to sprinkle their property. I feel this project is a waste of the US tax payers money. We are opposed to this project going forward.	The Bureau of Reclamation selects projects through a competitive process for WaterSMART Water and Energy Efficiency Grants to provide 50/50 funding to irrigation and water districts, tribes, states and other entities with water or power delivery authority. Projects are selected if they conserve and use water more efficiently; increase the production of hydropower; mitigate conflict risk in areas at a high risk of future water conflict; and accomplish other benefits that contribute to water supply reliability in the western United States. The Peoa South Bench Canal Piping and Metering Project was selected for WaterSMART funding because the Project would conserve and use water more efficiently and because it consistent with the Bureau of Reclamation Mission Statement to manage, develop, and protect water and related resources in an environmentally and economically sound manner. The environmental assessment considers how the proposed alternatives meet the purpose and need, which are to reduce water loss from seepage and improve efficiency of the water delivery system. The Proposed Action would meet the purpose and need: the Proposed Action would conserve 2,629 acre-feet of water from seepage. Installing individual meters would allow the irrigation company to: measure water use and water flows, thereby improving the management of water rights diverted from the Weber River. Prime farmland is defined and protected under the Farmland Protection Policy Act. Prime farmland means those lands which are defined by the Secretary of Agriculture in the Code of Federal Regulations (CFR), Title 30, Section 716.7. A determination by the Natural Resource Conservation Service (NRCS) for prime farmland is dependant on soil types present within the Proposed Action Area. According to the NRCS soil survey, the Proposed Action Area contains soils identified as "prime farmland if irrigated" (see Section 3.3 and Appendix). The Bureau of Reclamation determined that impacts to these soils would be minimal, no existing farmland would be converted to non-agricultural uses and that the Proposed Action would not preclude future farming activities within the Action Area. Reducing water loss and measuring water use is a benefit to more than just a few, it allows water to remain in the lakes, reservoirs and the Weber River for longer periods of time for use by other water users, including for culinary, irrigation, and recreational use. Property owners that would be impacted by construction of the Proposed Action would be contacted prior to any construction activity.
4	Dolores Perkins Jan Perkins	There is very recent new data regarding a federally listed endangered species in Summit County, Utah called "The Ute Ladies' Tresses", its scientific name is Spiranthes Diluvalis. It is a threatened and endangered species that has been recently identified in wetlands in Silver Creek at the intersection of Hwy 40 and Hwy 248. The entire length and breadth of this Peoa South Bench irrigation pipeline project is potential habitat for this plant. Therefore, a full protocol survey of this plant is required for any National Environmental Policy Act (NEPA) document involving this habitat. An Environmental Assessment (EA) is not supportable without such a survey.	Thank you for this information. See Section 3.9.1 of the environmental assessment and consultation with the USFWS in Appendix D. The water resource assessment provided in Appendix C indicated that areas along the canal are dominated by reed canary grass, orchard grass, Johnson grass, and woody species which are indicators that no suitable habitat for ULTs is present. In addition, the assessment did not identify hydric soils present in the action area, which are necessary to support ULTs. The USFWS concurred with Reclamation that suitable habitat for ULTs is not present in the Action Area and therefore there would be no effect to ULTs (see consultation with USFWS in Appendix D).

Comment Number	Commentor(s)	Comment	Response
4 Cont.	Dolores Perkins Jan Perkins	In addition, we are strongly opposed to this pipeline. We understand the need to conserve water, however we are not in agreement with the devastating effects this pipeline would have on our local environment. We signed the contract for the pipeline to go through our property only because we were forced to comply with the threat of eminent domain, not because we are in agreement with this project. Like the total destruction of trees and habitat caused by the Lower Marion Ditch pipeline east of Oakley, the Peoa South Bench Ditch Co provides no other options, provides no extra water to keep trees and the environment alive. All or nothing is not a solution. The environmental destruction that this pipeline would cause is completely unnecessary and shameful - as proven by example east of Oakley. The following articles show a very promising example of how the Teton Valley is re-thinking and finding unique out-of-the-box collaborative solutions for irrigation and replenishment of their aquifer and environment. And the key is that their solutions benefit everyone, not just a few. It's inspiring and it also includes the assistance and participation of the Bureau of Reclamation! Please, Utah, take notice. https://www.tetonvalleynews.net/news/agriculture/group-collaborates-to-recharge-aquifer/article_2d82436a-9bf911e8-b026-dbfcddad3da5.html https://www.tetonvalleynews.net/news/group-takes-multi-pronged-approach-to-aquifer-recharge/article 7f808b08828a-501b-a806-68469f463ed1.html	Thank you for providing this information. Reducing water loss and measuring water use is a benefit to more than just a few, it allows water to remain in the lakes, reservoirs and the Weber River for longer periods of time for use by other local water users, including for culinary, irrigation, and recreational use. Vegetation and trees along canals and pipes can lead to limited access and inspection capabilities, root damage, impact operational deliveries, create blockages, provide habitat for burrowing animals, and contribute to the likelihood of failures. Failures can cause significant economic damages and loss of project benefits. Peoa South Bench Canal & Irrigation Company manages the vegetation in the canal. Vegetation management along the canal's alignment would continue to focus on reducing risks to the water delivery system. Of note, any permanent loss of vegetation from piping the canal, however, would not impact wetlands or riparian areas (see Section 3.8 and Appendix C). All newly disturbed areas resulting from the Project will be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project condition as practicable. After completion of the Project and restoration activities, disturbed areas will be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes will be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas will be required. Revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.
5	Victoria Elbert	There is very recent new data regarding a federally listed endangered species in Summit County, Utah called "The Ute Ladies' Tresses", its scientific name is Spiranthes Diluvalis. It is a threatened and endangered species that has been recently identified in wetlands in Silver Creek at the intersection of Hwy 40 and Hwy 248. The entire length and breadth of this Peoa South Bench irrigation pipeline project is potential habitat for this plant. Therefore, a full protocol survey of this plant is required for any National Environmental Policy Act (NEPA) document involving this habitat. An Environmental Assessment (EA) is not supportable without such a survey.	Thank you for this information. See Section 3.9.1 of the environmental assessment and consultation with the USFWS in Appendix D. The water resource assessment provided in Appendix C indicated that areas along the canal are dominated by reed canary grass, orchard grass, Johnson grass, and woody species which are indicators that no suitable habitat for ULTs is present. In addition, the assessment did not identify hydric soils present in the action area, which are necessary to support ULTs. The USFWS concurred with Reclamation that suitable habitat for ULTs is not present in the Action Area and therefore there would be no effect to ULTs (see consultation with USFWS in Appendix D).
5 Cont.	Victoria Elbert	I oppose this pipeline also because of the major negative effects it will have on the local environment. We have seen in Oakley the devastation to the vegetation, specificially trees, near Boulderville caused by the installaion of the Lower Marian Ditch pipeline. While it is commendable to conserve water the question arises does benefiting some water users justify widespread devastation of our local environment dependent on ditch water for survival? The mission statement of the Bureau of Reclamaion is "...to manage, develope, protect water and related resources in an environmentally and economically sound manner..." Leaving large areas of vegetation to die due to piping of irrigation water does not seem like a sound environmental practice. Because this decision to put irrigation water in pipes, effects the environment of most local residents,I hope the wellbeing of the environment of the entire community will be guarded and protected by your decision.	Vegetation and trees along canals and pipes can lead to limited access and inspection capabilities, root damage, impact operational deliveries, create blockages, provide habitat for burrowing animals, and contribute to the likelihood of failures. Failures can cause significant economic damages and loss of project benefits. Peoa South Bench Canal & Irrigation Company manages the vegetation in the canal. Vegetation management along the canal's alignment would continue to focus on reducing risks to the water delivery system. Of note, any permanent loss of vegetation from piping the canal, however, would not impact wetlands or riparian areas (see Section 3.8 and Appendix C). All newly disturbed areas resulting from the Project will be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project condition as practicable. After completion of the Project and restoration activities, disturbed areas will be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes will be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas will be required. Revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project. Of note, the water that flows through the canal is dedicated through water rights for the irrigation users.
6	Cha Cha Weller Don Weller	There is very recent new data regarding a federally listed endangered species in Summit County, Utah called "The Ute Ladies' Tresses", its scientific name is Spiranthes Diluvalis. It is a threatened and endangered species that has been recently identified in wetlands in Silver Creek at the intersection of Hwy 40 and Hwy 248. The entire length and breadth of this Peoa South Bench irrigation pipeline project is potential habitat for this plant. Therefore, a full protocol survey of this plant is required for any National Environmental Policy Act (NEPA) document involving this habitat. An Environmental Assessment (EA) is not supportable without such a survey.	Thank you for this information. See Section 3.9.1 of the environmental assessment and consultation with the USFWS in Appendix D. The water resource assessment provided in Appendix C indicated that areas along the canal are dominated by reed canary grass, orchard grass, Johnson grass, and woody species which are indicators that no suitable habitat for ULTs is present. In addition, the assessment did not identify hydric soils present in the action area, which are necessary to support ULTs. The USFWS concurred with Reclamation that suitable habitat for ULTs is not present in the Action Area and therefore there would be no effect to ULTs (see consultation with USFWS in Appendix D).

Comment Number	Commentor(s)	Comment	Response
6 Cont.	Cha Cha Weller Don Weller	In addition, we are strongly opposed to this pipeline. We understand the need to conserve water, however we are not in agreement with the devastating effects this pipeline would have on our local environment. We signed the contract for the pipeline to go through our property only because we were forced to comply with the threat of eminent domain, not because we are in agreement with this project. Like the total destruction of trees and habitat caused by the Lower Marion Ditch pipeline east of Oakley, the Peoa South Bench Ditch Co provides no other options, provides no extra water to keep trees and the environment alive. All or nothing is not a solution. The environmental destruction that this pipeline would cause is completely unnecessary and shameful - as proven by example east of Oakley. The following articles show a very promising example of how the Teton Valley is re-thinking and finding unique out-of-the-box collaborative solutions for irrigation and replenishment of their aquifer and environment. And the key is that their solutions benefit everyone, not just a few. It's inspiring and it also includes the assistance and participation of the Bureau of Reclamation! Please, Utah, take notice. https://www.tetonvalleynews.net/news/agriculture/group-collaborates-to-recharge-aquifer/article_2d82436a-9bf911e8-b026-dbfcddad3da5.html https://www.tetonvalleynews.net/news/group-takes-multi-pronged-approach-to-aquifer-recharge/article_7f808b08828a-501b-a806-68469f463ed1.html	Thank you for providing this information. Reducing water loss and measuring water use is a benefit to more than just a few, it allows water to remain in the lakes, reservoirs and the Weber River for longer periods of time for use by other local water users, including for culinary, irrigation, and recreational use. Of note, the water that flows through the canal is dedicated through water rights for the irrigation users. Vegetation and trees along canals and pipes can lead to limited access and inspection capabilities, root damage, impact operational deliveries, create blockages, provide habitat for burrowing animals, and contribute to the likelihood of failures. Failures can cause significant economic damages and loss of project benefits. Peoa South Bench Canal & Irrigation Company manages the vegetation in the canal. Vegetation management along the canal's alignment would continue to focus on reducing risks to the water delivery system. Of note, any permanent loss of vegetation from piping the canal, however, would not impact wetlands or riparian areas (see Section 3.8 and Appendix C). All newly disturbed areas resulting from the Project will be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project condition as practicable. After completion of the Project and restoration activities, disturbed areas will be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes will be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas will be required. Revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.
6 Cont.	Cha Cha Weller Don Weller	In addition to Jan Perkin's articulate letter above, we would like to mention the changing face of real estate in our valley, the Kamas Valley. Instead of large farms, the environment most of us prefer, it is being gradually divided into smaller and smaller parcels. In the future the look of a flat valley with winding water ways lined by occassional rows of trees, naturally breaks up the hay fields and clusters of home development. Without those trees, the valley is headed toward rows and rows of small homes, reminiscent of Los Angeles's San Fernando Valley. Let's look at all options before we burry the water. I think land values climb if the beauty is maintained. A high density bedroom community, not so much. Compare homesite prices along the river front with lots in a subdivision. Although we may lament it, the future value of an acre is no longer on how much hay it can produce.	The Bureau of Reclamation acknowledges the potential for the landscape to change following implementation of the Proposed Action. This project focuses on water conservation within a system that demonstrates water loss from an open, unlined canal. Vegetation and trees along canals and pipes may lead to limited access and inspection capabilities, root damage, impact operational deliveries, create blockages, provide habitat for burrowing animals, and contribute to the likelihood of failures. Failures can cause significant economic damages and loss of project benefits. Peoa South Bench Canal & Irrigation Company manages the vegetation in the canal. Vegetation management along the canal's alignment would continue to focus on reducing risks to the water delivery system. Of note, any permanent loss of vegetation from piping the canal, however, would not impact wetlands or riparian areas (see Section 3.8 and Appendix C). All newly disturbed areas resulting from the Project will be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project condition as practicable. After completion of the Project and restoration activities, disturbed areas will be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes will be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas will be required. Revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.
7	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	We are submitting a few general comments regarding the information contained in the draft copy of Environmental Assessment on the Peoa South Bench Canal Piping and Metering Project. We appreciate being included in your evaluation of this project, and feel our comments can be of value to you in your assessment, but we do not concur with having this canal modified to include water transmitted by a piping system. The beauty of this valley for the last 100 years has relied upon this canal and the leakage and seepage around its banks. This project will have a major impact on this beauty that we have all enjoyed. This has been demonstrated, and shown with the installing of a piping system in the Marion Canal. This project robbed the valley of hundreds of trees and surrounding vegetation that died due to a lack of water. It is an eye sore to the valley and a fire hazard to the immediate surroundings.	Thank you for your comments. This project focuses on water conservation within a system that demonstrates water loss from an open, unlined canal. Reducing water loss and measuring water use allows water to remain in the lakes, reservoirs and the Weber River for longer periods of time for use by other local water users, including for culinary, irrigation, and recreational use.
7 Cont.	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	We have a small pond on our lower ground that relies on the water from this canal, and we are wondering about all of the ducks and geese that return every year to this little pond and to the canal to hatch their young, and raise them for another evolution. All this will be history, and very costly, so that those downstream can go off the power grid. Seems like a lot to give up for the benefits received! No, this area may not be identified as a marsh or wetlands, but it is used the same by the wildlife and birds that enjoy this beautiful setting.	Peoa South Bench Canal & Irrigation Company owns the water rights for the water in the canal and is working to conserve water and improve water delivery efficiency. The Proposed Action is not anticipated to significantly affect the resources you mention, including general wildlife, wetlands or riparian areas (see Section 3.8 and Appendix C).

Comment Number	Commentor(s)	Comment	Response
7 Cont.	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	The following paragraphs list areas of concern that need to be considered and resolved if the project is approved: We built our homes along the Peoa South Bench Canal in the early 1980's and worked with the Oakley Town and the Peoa South Bench Water Company on the placement of our homes. We were told at that time that the Canal Company had an easement of 20 feet total, and that it was 10 feet on each side of the center of the canal. This has always been the size of the Water Company easement, and has been confirmed by the water company as we recently discussed this project with them. The placement of our home, yard features, accessory buildings, and fences were placed according to the easements provided at that time. The reason we provide this background is to point out that the 50 foot wide work area identified in the last paragraph in section 2.3 cannot apply continually for the 4 miles as indicated, and that the 20 foot easement needs to be the size of the work area behind our homes.	The work area for construction of the Proposed Action would be minimized to the extent practicable and would be primarily within the canal easement in areas where the canal would be piped within the existing alignment. Property owners that would be impacted by construction of the Proposed Action would be contacted prior to any construction activity. For purposes of the Environmental Assessment, the resource evaluations were completed for an area 50 feet wide. Any construction activity outside of the permanent easement and within 50 feet would be temporary and shall be coordinated with the appropriate landowner. All disturbed areas resulting from construction of the Project will be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project condition as practicable. After completion of the Project and restoration activities, disturbed areas will be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes will be coordinated with wildlife habitat specialists and Bureau of Reclamation biologists. Weed control on all disturbed areas will be required.
7 Cont.	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	The staging area on New Lane Road currently has an occupied home on it, and the balance is farmed or pastured. No one has talked to us or the other owners for permission to use the ground as a staging area.	Property owners that would be impacted by construction of the Proposed Action, including owners of property that would used as staging areas, would be contacted prior to any construction activity. Potential staging areas were identified for environmental assessment. Permission from property owners would be required.
7 Cont.	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	Excavation in the existing canal behind our homes will cause major structural damage to the root systems of most of the large historical trees lining the banks of the canal behind our houses. This will compromise the strength of the trees, and cause a significant safety issue since some of the trees are very large in size, and if they fall could damage homes and other structures, as well as being a major safety concern for the inhabitants of each home. Since it would be impossible to determine which trees were damaged it seems the only solution is that all of the large trees be removed and disposed of by the project.	Any construction activity that damages root systems of trees would likely require removal of the trees for construction. In those cases, the contractor would remove the trees and then smooth, shape, contour, and rehabilitate the disturbed area. Trees within the easement that can be saved without compromising the tree would be saved.
7 Cont.	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	On similar projects that have been completed in the Kamas Valley all of the vegetation lining the banks of the piped canal has died due to lack of water. When this inevitably happens to our property, it will affect the property values of our homes and also create a fire hazard. This would not be an acceptable condition to leave us in, and since we have no way to water the remaining vegetation we feel a solution (with funding) needs to be included as part of this project. Property owners should not have any costs associated with this project or the repairs/clean up required after the project is completed.	As mentioned above, Peoa South Bench Canal & Irrigation Company owns the water rights for the water in the canal and is working to conserve water and improve water delivery efficiency. The dedicated use of the water rights is for irrigation. Areas disturbed during construction would be rehabilitated with native seed mixes more appropriate to the area and that reduce fire hazard.
7 Cont.	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	We have an active water well within 189 feet of the existing canal. This well provides water at our barn for the animals, and is also the source of water for our private recreation park up by our homes. In addition, three of our homes on Cottonwood Lane are connected to this well as a backup water source. We are very concerned that the well will dry up with the piping of the canal, and we feel that provisions need to be included to have the well re-drilled by this project if this were to happen.	The Proposed Action has the potential to affect the well only if the well is charged by seepage from the canal. If the well is not charged by the canal, then there would be no effect to the well from the Proposed Action. If the well does receive water from the canal (likely through seepage if at all), it is important to recognize that the Peoa South Bench Canal & Irrigation Company is entitled to that water under an approved water right; adjacent landowners do not have a right to that water. Therefore, the Irrigation Company would not be responsible for replacing that well.
7 Cont.	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	On occasion we have waste water that comes from properties being irrigated upstream from us. This has not been a problem because when it did occur the water would run into the Peoa South Bench Canal. This happens on both the East and West sides of our property, and is the path of flow for the waste water since we have lived in Oakley. With the piping of the canal this could cause a soil erosion problem around the new canal pipe, and also cause an erosion issue to our lane accessing our lower ground on the West side of our property. To resolve this issue piping will need to be installed over the new canal piping in two areas, and across the lane in question.	Peoa South Bench Canal exists for the purpose of delivering irrigation water to share holders. The ditch was not constructed as a tailwater collection facility.
7 Cont.	Robert Rydalch Jean Rydalch Clyde Rydalch Ialien Rydalch	The above list identifies some of the more concerning problems for us that are associated with piping of the Peoa South Bench Canal through our property. We are sure other concerns will come up as the project is further studied and evaluated. We will be happy to continue to assist in any way that we can as your project progresses.	Thank you for this information and for you input on this project.