

RECLAMATION

Managing Water in the West

West Porterville Irrigation Piping Project Environmental Assessment

PRO-EA-18-001

Upper Colorado Region
Provo Area Office
Provo, Utah



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

September 2018

Mission Statements

The mission of the Department of the Interior is to protect and manage the Nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

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

West Porterville Irrigation Piping Project Environmental Assessment

PRO-EA-18-001

Upper Colorado Region
Provo Area Office
Provo, Utah

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

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Provo, Utah

FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment West Porterville Irrigation Piping Project
Morgan County, Utah


EA-18-001

Recommended by:


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Wildlife Biologist

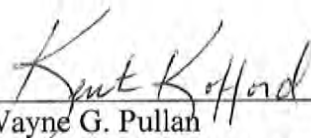
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ACTING FOR

Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Reclamation, Provo Area Office has conducted an Environmental Assessment (EA) for a Proposed Action to provide funding to the West Porterville Irrigation Company (WPIC), which proposes to pipe approximately 4.75 miles of the West Porterville Irrigation System (WPIS). The project would also install a 15kW micro-hydro power station.

The EA was prepared by Reclamation to address the impacts associated with abandoning and replacing the existing canal network with a water transmission pipeline.

The purpose of the project improvements is to replace the existing, leaky asbestos concrete pipe with approximately 4.75 miles of pressurized high-density polyethylene pipe (HDPE) pipeline of the WPIS. Based on a water loss study conducted in 2016 by J-U-B Engineers, Inc., water losses within the existing system are estimated to be at least 540 acre-feet of water annually (JUB 2016). The water loss study used an inflow/outflow test with an ultrasonic flow meter temporarily installed at the beginning of the system. The system was charged and then closed so that no flow was leaving the system. An average of 813 gallons per minute (gpm) were measured to be leaving the closed system. Extrapolated over the duration of the irrigation season, it was calculated that the system loses approximately 540 acre-feet of water annually through existing leaks in the pipeline. Through implementation of the Proposed Action, it is anticipated that this same 540 acre-feet of water would be saved simply by replacing the leaky pipeline with a fused joint HDPE pipe system.

The project would also install a 15kW micro-hydro/pressure reducing valve (PRV) station to provide power for agricultural barns and maintenance buildings along the WPIS alignment. The 15kW micro-hydro station would generate an estimated 55,080 kWh of power, while regulating pressure in the piped system. A PRV station will be placed along with the micro-hydro station to serve as a backup system for pressure regulation.

The Proposed Action is needed to improve the efficiency of the existing irrigation system by reducing water loss due to leaky pipes, and thereby decreasing the level of required maintenance along the WPIS. The project is also needed to provide the WPIC with a renewable power source that helps to regulate pipeline pressure and provides some power to agricultural barns and maintenance buildings along the WPIS alignment.

Alternatives

The EA analyzed the No Action Alternative and the Proposed Action, which is to pipe approximately 4.75 miles of the WPIS and to install a 15kW micro-hydro power station.

Minimization Measures Incorporated into the Proposed Action

Minimization measures are incorporated into the Proposed Action and, along with other measures listed in Chapter 3 and Chapter 4 of the EA, have also been incorporated into the Proposed Action to lessen the potential adverse effects.

- The proposed project construction area would be located in previously disturbed or actively disturbed sites, and would have as small a footprint as possible.
- Staging and stockpiling areas would be located in approved locations, where new disturbance of soils and vegetation would be minimized or avoided.
- Construction vehicles and equipment would be inspected and cleaned prior to entry into the project area to ensure that they are free of weed seed.

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

1. **Standard Reclamation Best Management Practices (BMPs)** - Standard Reclamation BMPs will be applied during construction activities to minimize environmental effects and would be implemented by the contractor and included in construction specifications. Such practices or specifications include sections in the present EA on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, wildlife and threatened or sensitive species. Excavated material and construction debris may not be wasted in any stream or river channel in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at a Reclamation approved upland site well away from any channel. Construction materials, bedding material, excavation material, etc. may not be stockpiled in riparian or water channel areas. Silt fencing 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 construction.
2. **Additional Analyses** - If the Proposed Action were to change significantly from that described in this EA because of additional or new information, or if other spoil, or work areas beyond those outlined in this analysis are required outside the defined project construction area, additional environmental analyses may be necessary.
3. **Utah Pollutant Discharge Elimination System (UPDES) Permit** - A UPDES Permit would be required from the State of Utah because the project would disturb more than one acre of land. Appropriate measures would be taken to ensure that construction related sediments would not enter any natural waterway either during or after construction. Settlement ponds and intercepting ditches for capturing sediments would be constructed, and the sediment and other contents collected would be hauled off the site for appropriate disposal upon completion of the project.

4. **Fugitive Dust Control Permit** - The Utah Division of Air Quality (UDAQ) regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than one-quarter of an acre. Utah Administrative Code R307-205-5, requires steps be taken to minimize fugitive dust from construction activities. The Contractor would be required to prepare and file fugitive dust control plan with UDAQ prior to the commencement of construction.
5. **Cultural Resources** - In the case that any cultural resources, either on the surface or subsurface, are discovered during construction, Reclamation's Provo Area Office archeologist shall be notified and construction in the area of the inadvertent discovery will cease until an assessment of the resource and recommendations for further work can be made by a professional archeologist.
6. **Inadvertent Discovery** - Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on Federal land, he/she must provide immediate telephone notification of the discovery to Reclamation's Provo Area Office Archaeologist. Work would stop until the proper authorities are able to assess the situation onsite. This action would promptly be followed by written confirmation to the responsible Federal agency official, with respect to Federal lands. The Utah State Historic Preservation Office (SHPO) and interested Native American Tribal representatives would be promptly notified. Consultation would 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).
7. **Adverse effect to Cultural Resources** – The mitigation measures developed to address the Adverse Effect to Site 42MO80 would be implemented prior to the start of construction. The mitigation measures are outlined in the Memorandum of Agreement (MOA) dated July 27, 2018.
8. **Paleontological Resources** - Should vertebrate fossils be encountered by the proponent during ground disturbing actions, construction must be suspended until a qualified paleontologist can be contacted to assess the find.
9. **Wildlife Resources** – In the case that bald and/or golden eagles are observed within the project area and vicinity, Reclamation's Provo Area Office wildlife biologist shall be notified and construction in the area shall cease until an assessment of eagle presence can be made by a professional wildlife biologist. The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" eagles, including their parts, nests, or eggs. The Act defines "take" as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In

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

New guidance pertaining to the Migratory Bird Treaty Act (MBTA) was issued on December 22, 2017 by the U.S. Department of the Interior (DOI) under Secretarial Order 3345. Furthermore, the U.S. Fish and Wildlife Service (FWS) issued guidance through an M-Opinion. That guidance states 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.

10. **Previously Disturbed Areas** - Construction activities would be confined to previously disturbed areas where possible for such activities as work, staging, and storage, waste areas and vehicle and equipment parking areas. Vegetation disturbance would be minimized as much as possible.
11. **Public Access** - Construction sites would be closed to public access. Temporary fencing, along with signs, would be installed to prevent public access. The project team would coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the project area.
12. **Disturbed Areas** - All disturbed areas resulting from the project would be smoothed, shaped, contoured, and rehabilitated to as near the pre-construction condition as practicable. After completion of the construction and restoration activities, disturbed areas would be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (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 would be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas would be required. Successful revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed project.
13. **Sensitive Species** - Construction activities would avoid impacts to natural streams, and would take place outside the nesting and brooding season for migratory birds.

Related NEPA Documents

Reclamation could not identify any prior NEPA studies related to this Proposed Action.

Decision and Finding of No Significant Impact

Based on a review of the EA and supporting documents, I have determined that implementing the Proposed Action will not significantly affect the quality of the human environment,

individually or cumulatively with other actions in the area. No environmental effects meet the definition of significance in context or intensity as defined at 40 CFR 1508.27. Therefore, an Environmental Impact Statement is not required for this Proposed Action. This finding is based on consideration of the context and intensity as summarized here from the EA.

Context

The affected locality is Morgan, Utah. Affected interests include Reclamation and the WPIC.

Intensity

The following discussion is organized around the ten significance criteria described in 40 CFR 1508.27. These criteria were incorporated into the resource analysis and issues considered in the EA.

1. **Impacts may be both beneficial and adverse.** The Proposed Action will impact resources as described in the EA. Environmental commitments to reduce impacts to cultural resources, paleontological resources, and biological resources were incorporated into the design of the Proposed Action. The following short-term effects of the Proposed Action are predicted: road/traffic delays, increased noise levels from construction and ground disturbance along the pipeline alignment.

Long-term effects to cultural resources are anticipated from the Proposed Action. As stated in the EA, the Proposed Action would result in an adverse effect to segments of the historic West Porterville Ditch. However, these effects will be mitigated by fulfilling the terms of the MOA signed by Reclamation, the SHPO, and the WPIC.

Beneficial effects include providing a more reliable and efficient method of conveying water and ensuring its greater availability to agricultural interests.

None of the environmental effects discussed in detail in the EA are considered significant.

2. **The degree to which the selected alternative will affect public health or safety or a minority or low-income population.** The Proposed Action will have no significant impacts on public health or safety. No minority or low income community will be disproportionately affected by the Proposed Action.
3. **Unique characteristics of the geographic area.** There are no unique characteristics associated with the project area. There are no wetlands, floodplains, park lands, prime farmlands, wild and scenic rivers, or other ecologically critical areas that will be affected by the Proposed Action.
4. **The degree to which the effects on the quality of the human environment are likely to be highly controversial.** Reclamation contacted representatives of other Federal agencies, state and local governments, Indian tribes, public and private organization, and individuals/users regarding the Proposed Action and its effects on resources. Based on the responses received, the effects from the Proposed Action on the quality of the human environment are not highly controversial.

5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.** In conducting an EA, when uncertainty about impacts to the human environment are identified, mitigation and monitoring measures are included in the formulation of the alternatives. For this Proposed Action, there are no predicted effects on the human environment that are considered highly uncertain or that involve unique or unknown risks.
6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.** The Proposed Action will not establish a precedent for future actions with significant effects.
7. **Whether the action is related to other actions which are individually insignificant but cumulatively significant.** Cumulative impacts are possible when the effects of the Proposed Action are added to other past, present, and reasonably foreseeable future actions as described under Related NEPA Documents above; however, no other past, present or future actions are associated with the Proposed Action.
8. **The degree to which the action may adversely affect sites, districts, buildings, structures, and objects listed in or eligible for listing in the National Register of Historic Places.** Pursuant to 36 CFR 800.6(c), a MOA is being developed to resolve, by mitigating, the adverse effects to the West Porterville Ditch (site 42MO80). Mitigation for the adverse effects, set forth in the stipulations of the MOA, must be completed before construction activities associated with the Proposed Action begin.
9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.** Although listed species had potential to occur in the project boundary, they will not be affected because suitable habitat for the listed species does not occur within project area or will be completely avoided. Reclamation's finding was No Effect.
10. **Whether the action threatens a violation of Federal, state, local, or tribal law, regulation or policy imposed for the protection of the environment.** The project does not violate any Federal, state, local, or tribal law, regulation, or policy imposed for the protection of the environment. In addition, this project is consistent with applicable land management plans, policies, and programs.

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Chapter 1 Purpose of and Need for Proposed Action

1.1 Introduction

This Environmental Assessment (EA) was prepared to examine the potential environmental impacts of the West Porterville Irrigation Piping Project, proposed by the West Porterville Irrigation Company (WPIC) in Morgan County, Utah. If approved, the U.S. Bureau of Reclamation would authorize the use of Federal funds to pipe approximately 4.75 miles of the West Porterville Irrigation System (WPIS). The project would also install a 15kW micro-hydro power station.

1.2 Background

The Proposed Project is located near the unincorporated community of Porterville in Morgan County, Utah. The WPIC is responsible for delivering water used to irrigate active agricultural fields in Morgan County. The WPIC's irrigation system is currently composed of outdated asbestos concrete pipe, which leaks in locations along the entire alignment, causing system inefficiency and significant water loss due to seepage. The Proposed Project would install 25,075 linear feet (approximately 4.75 miles) of new 8 to 18-inch-diameter, high-density polyethylene (HDPE) pipeline (Figure 1.1 Project Vicinity Map). In addition, the project would include installation of a 15-kilowatt micro-hydro pressure reduction valve (PRV) station, which would generate approximately 55,080-kilowatt hours (kWh) of energy per year, providing power to agricultural barns and maintenance sheds along the system alignment. Piping the irrigation system would largely follow the original open ditch alignment before the system was piped approximately 40 years ago. The Proposed Project alignment would follow the pre-existing ditch with three small sections of new alignment. The existing pipeline system would be abandoned in place. The existing pipeline follows the ditch alignment along the southern portion of the alignment, then cuts east of Hardscrabble Road and Morgan Valley Drive. Figure 1.1 illustrates the alignment and the sections where a new alignment is proposed.



Figure 1.1 Project Vicinity Map

1.2.1 WaterSMART

As the U.S. Department of the Interior’s primary water management agency, Reclamation’s mission is to manage, develop, and protect water and water-related resources in an environmentally and economically sound manner. A key component of Reclamation’s activities is to support water conservation and assist resource managers in water-use decision-making processes. Established in February 2010 by U.S. Secretary of Interior, Ken Salazar, the WaterSMART Program was developed to meet the goals outlined in the Omnibus Public Land Management Act of 2009. Subtitle F of the Act, also known as the SECURE Water Act, established that “adequate and safe supplies of water are fundamental to the health, economy, and ecology of the United States,” and authorized Federal agencies to work with local entities to address issues that jeopardize the security of water (Reclamation 2015). As such, Reclamation’s WaterSMART Program administers grants, funds, and scientific studies, and provides technical assistance to state and local entities.

1.2.2 West Porterville Irrigation System

The WPIC’s irrigation pipeline is located north and west of Hardscrabble Creek and East Canyon Creek near the unincorporated settlement of Porterville, just southwest of the Town of Morgan (Figure 1.1 Project Location Map). The WPIS serves approximately 110 water users and irrigates approximately 760 acres of agricultural lands. A 10-year average of water usage indicates that WPIC is delivering approximately 1,756 acre-feet in an irrigation season. The primary crops in the WPIC’s service area include grains, hay, and corn. The project is located at an average elevation of 5,500 feet above mean sea level (MSL). Water in the WPIS is supplied by an existing diversion on Hardscrabble Creek, which then flows into the existing regulating pond. The WPIC has water rights originating in 1862. Two of their water rights draw out of Hardscrabble Creek. Both water rights include flood flows of 10.12 cubic feet per second (cfs), which is equivalent to approximately 3/5ths of the flow in Hardscrabble Creek. Figure 1.2 illustrates the existing conditions at the diversion and regulating pond. The Proposed Project will not change any of the existing diversion, regulating pond, screen, or outlet structures. The proposed pipeline would follow the existing alignment at this location.

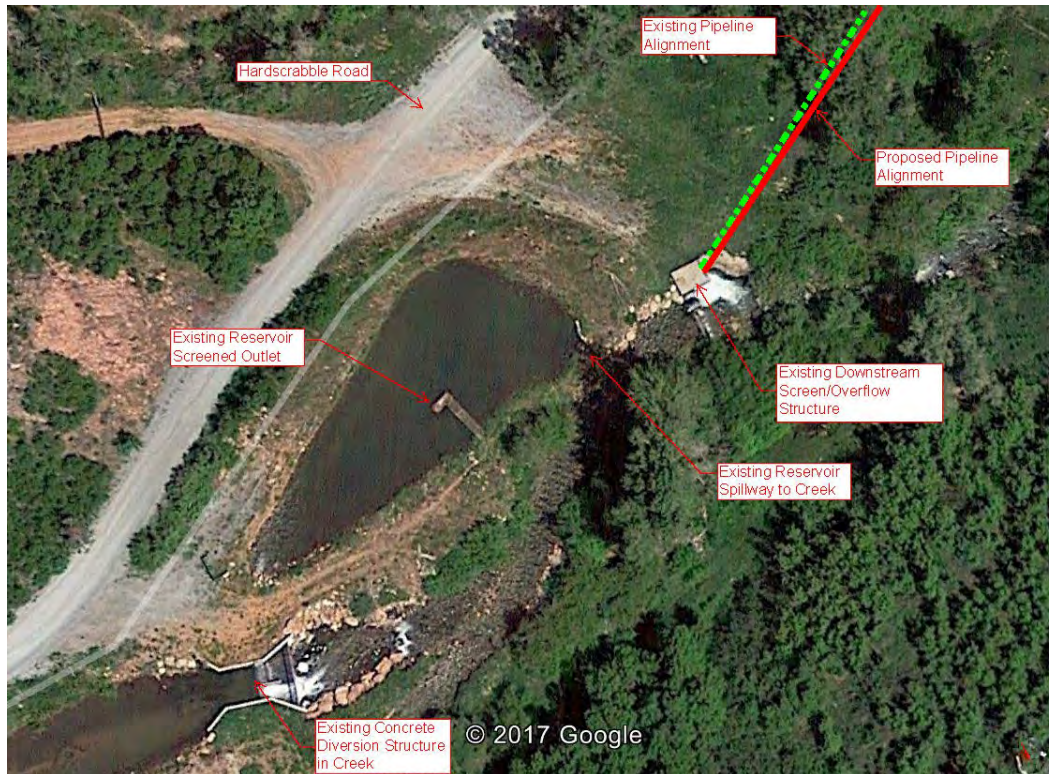


Figure 1.2 Existing Diversion and Regulating Pond

1.3 Purpose of and Need for Proposed Action

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

The purpose of the project improvements is to replace the existing, leaky asbestos concrete pipe with approximately 4.75 miles of pressurized HDPE pipeline of the WPIS. Based on a water loss study conducted in 2016 by J-U-B Engineers, Inc., water losses within the existing system are estimated to be at least 540 acre-feet of water annually (JUB 2016). The water loss study used an inflow/outflow test with an ultrasonic flow meter temporarily installed at the beginning of the system. The system was charged and then closed so that no flow was leaving the system. An average of 813 gallons per minute (gpm) were measured to be leaving the closed system. Extrapolated over the duration of the irrigation season, it was calculated that the system loses approximately 540 acre-feet of water annually through existing leaks in the pipeline. Through implementation of the Proposed Action, it is anticipated that this same 540 acre-feet of water would be saved simply by replacing the leaky pipeline with a fused joint HDPE pipe system.

The project would also install a 15kW micro-hydro/PRV station to provide power for agricultural barns and maintenance buildings along the WPIS alignment. The 15kW micro-hydro station would generate an estimated 55,080 kWh of power, while regulating pressure in the piped system. A PRV station will be placed along with the micro-hydro station to serve as a backup system for pressure regulation.

The Proposed Action is needed to improve the efficiency of the existing irrigation system by reducing water loss due to leaky pipes, and thereby decreasing the level of required maintenance along the WPIS. The project is also needed to provide the WPIC with a renewable power source that helps to regulate pipeline pressure and provides some power to agricultural barns and maintenance buildings along the WPIS alignment.

1.4 Public Scoping and Involvement

The public involvement process for this EA presented the members of the public, including other agencies, interest groups and key stakeholders with opportunities to obtain information about the proposed project and opportunities to provide feedback on the project. Reclamation's objectives during the public involvement process are to create and maintain a well-informed public and to receive input on the proposed project.

The draft EA was published for public review and comment. The comment period extended from August 13, 2018, to September 12, 2018. No comments were received on the draft EA.

1.5 Permits, Licenses, and Authorizations

Implementation of the Proposed Action may require a number of authorizations or permits from state and Federal agencies. The WPIC would be responsible for obtaining all permits, licenses, and authorizations required for the Project. Potential authorizations or permits may include those listed in Table 1-2.

**Table 1-2
Permits and Authorizations**

| Agency/Department | Purpose |
|--|---|
| Utah Division of Water Quality (UDWQ) | Utah Pollution Discharge Elimination System (UPDES) Permit for construction activity greater than 1 acre. |
| Utah State Historic Preservation Office (SHPO) | Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. 470 U.S.C. 470. |
| United States Army Corps of Engineers (USACE) | A USACE permit, in compliance with Section 404 of the Clean Water Act (CWA), would be required prior to the discharge of dredged or fill material into “waters of the United States.” |
| Utah Division of Water Rights (DWRi) | Stream Alteration Permit for any activity in a natural channel or waterway. |
| Utah Division of Air Quality | A Fugitive Dust Control Plan would be required. |

1.6 Related Projects and Documents

There are no known past or current federally-funded projects within Morgan County. The closest known federally-funded project is a WaterSMART grant project for the Echo Ditch Company Piping Project, which was completed in 2017. The project, located in Summit County near Echo Reservoir and in the town of Echo, replaced and converted a gas pipeline into an irrigation pipeline, piped open ditches and installed turnouts and meters along the Echo Ditch Company’s irrigation system. There are no other known federally-funded projects in general vicinity of the Proposed Project.

1.7 Scope of Analysis

The purpose of this EA is to determine whether Reclamation should authorize, provide funding, and enter into an agreement with the WPIC to replace the pipe and adjust the alignment of the WPIS in order to reduce water loss. That determination includes consideration of whether there would be significant impacts to the human environment. In order to pipe and re-align the irrigation system, this EA must be completed and a FONSI issued. Analysis in the EA includes temporary impacts from construction activities and permanent impacts as a result of the Proposed Project.

Chapter 2 Alternatives

2.1 Introduction

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

2.2 No Action

Under the No Action Alternative, Reclamation would not authorize the use of Federal funds to pipe the WPIS. The existing asbestos concrete pipeline would continue to deliver 1765 acre-feet of irrigation water with no improvements to reduce seepage. Current water losses, estimated to be 540 acre-feet of water annually, would continue due to leaky pipes and seepage. These losses have influenced water delivery in the past. In an average year, the amount of water lost from the system is so high that many water users lower in the system have not received their allocated shares for more than 5 years. These losses would continue under the No Action Alternative. No renewable power generation improvements would occur along the WPIS to support pressure regulation and to provide power to agricultural barns and maintenance sheds along the WPIS.

2.3 Proposed Action

The Proposed Action is the preferred alternative. Under the Proposed Action Alternative, Reclamation would authorize the use of Federal funds to pipe the WPIS. Piping the WPIS would reduce the amount of required ongoing maintenance to repair leaks and replace failing valves and gates. The Proposed Action would install 25,075 linear feet (approximately 4.75 miles) of new HDPE pipeline (Figure 2.1 Project Location Map North and Figure 2.2 Project Location Map South). The existing asbestos concrete pipe varies in size from 6 to 20 inches. The existing diversion structure, pond, screens and outlet structure would not change. The Proposed Action would have HDPE pipe sizes ranging from 8 to 18 inches to facilitate hydraulic pressure regulation and ensure water can be delivered to WPIC water users. The Proposed Action would abandon the existing buried pipeline. The proposed pipeline would be placed in the pre-existing open ditch and the existing pipeline would be abandoned in place. Where the new pipeline is placed in the existing ditch, no new easements would be necessary and the ditch would be filled once the pipeline is constructed. Three sections of the alignment will deviate from the existing open ditch alignment.



Figure 2.1 Project Location Map North



Figure 2.2 Project Location Map South

In these locations, additional easements with three separate landowners will be required and the existing open ditch would remain open, as it would not be utilized for the new pipe. Lastly, the project would include installation of a 15-kilowatt micro-hydro/PRV station at the middle point of the new alignment, which would generate 55,080-kWh of energy per year to assist with pressure regulation and to provide power to agricultural barns and maintenance buildings along the alignment.

2.3.1 Construction Schedule

The WPIC irrigation season is from May 1 to October 1. Construction would be anticipated to take place over a 3-year period beginning in October 2018. Pipeline construction activities would occur from October to April outside of the irrigation season, beginning in October 2018. Substantial completion of the project, including the pipeline and micro-hydro/PRV station is anticipated in April 2020.

2.3.2 Construction Procedures

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

2.3.2.1 Construction Staging Areas

Staging areas would be used to stockpile pipe and other construction materials, to house equipment, and to park construction vehicles. Three staging areas have been identified and analyzed as part of this EA to determine potential project impacts throughout implementation of the Proposed Action (Figure 2.1 and Figure 2.2). The staging areas range from 0.5 to 1 acre in size. Each staging area is located on private land, each have an existing access that would not be altered. No additional access points would be necessary. The staging areas are located in previously disturbed agricultural fields or gravel lots already used for storage of farm equipment. Impacts to construction staging areas are discussed in Chapter 3.

2.3.2.2 Land Disturbance

The proposed pipeline alignment would be approximately 4.75 miles in length and would include a 100-foot buffer clearance (50-feet in both directions from the centerline of the pipeline alignments). Land disturbance would be confined to the identified staging areas, the existing pipeline prism, and the 20-foot-wide construction easement and 30-foot-wide permanent easement along the pipeline alignment. Transportation to the project would follow existing access routes wherever possible to minimize disturbance. If necessary, any new access roads

would be small two-track accesses and would be confined to the 30-foot permanent easement, which would be included in the 100-foot buffer cleared under the environmental analysis.

2.4 Alternatives Considered and Eliminated from Further Study

The alternative analysis included removing the existing buried pipeline and placing the new pipeline in the existing pipeline alignment, not in the existing open ditch alignment. This alternative was dismissed because costs were much higher. The Proposed Action alignment provides a more direct route, which would require less pipe and would reduce the overall maintenance requirements. Other preliminary alternatives considered for this project included varying pipeline alignments. All of these new alignments would have required considerable land disturbance and were therefore dismissed from consideration. For this reason, the alternatives considered for analysis within this EA are the No Action Alternative, and the Proposed Action Alternative.

2.5 Comparison of Alternatives

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

- Prevent seepage and water losses
- Reduce maintenance
- Provide power generation

The No Action Alternative did not meet any of the Project's objectives while the Proposed Action met all three objectives.

2.6 Minimization Measures Incorporated into the Proposed Action

The minimization measures, along with other measures listed under each resource in Chapter 3 and Chapter 4 have been incorporated into the Proposed Action to lessen the potential adverse effects. These minimization measures include, but are not limited to, the following:

- The proposed project construction area would be located in previously disturbed or actively disturbed sites, and would have as small a footprint as possible.

- Staging and stockpiling areas would be located in approved locations, where new disturbance of soils and vegetation would be minimized or avoided.
- Construction vehicles and equipment would be inspected and cleaned prior to entry into the project area to ensure that they are free of weed seed.

Chapter 3 Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the environment that could be affected by the Proposed Action. These impacts are discussed under the following resource issues: geology and soils resources; visual resources; cultural resources; paleontological resources; hydrology; water quality; system operations; air quality and noise; prime and unique farmlands; floodplains; wetlands, riparian areas, and vegetation; fish and wildlife resources; threatened, endangered, and sensitive species; socioeconomics; public health and safety, access, and transportation; water rights; Indian Trust Assets; and environmental justice. Resources considered and eliminated from further analysis include recreation resources and wilderness or Wild and Scenic Rivers. The present condition or characteristics of each resource are discussed first, followed by a discussion of the predicted impacts caused by the Proposed Action. The environmental effects are summarized in Section 3.7.

Minimization measures would be implemented to ensure impacts are reduced or avoided, and are short-term in duration. Chapter 3 presents the impact analysis for resources after minimization measures and Best Management Practices (BMPs) have been successfully implemented.

3.2 Resources Considered and Eliminated from Further Analysis

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

Table 3-1
Resources Eliminated from Analysis

| Resource | Rationale for Elimination from Further Analysis |
|--------------------------------------|--|
| Recreation Resources | There are no recreation resources within or directly adjacent to the project area. |
| Wilderness or Wild and Scenic Rivers | There are no designated Wilderness Areas or Wild and Scenic Rivers within or adjacent to the project area. |

3.3 Affected Environment and Environmental Consequences

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

3.3.1 Geology and Soils Resources

The plateaus and mountains of the Colorado Plateau are the products of a series of uplifted landmasses deeply eroded by wind and water. However, long before the earth movements, which created many of the uplifted landmasses, the region was the scene of encroachment and retreat of great inland seas. The sedimentary rock formations underlying large portions of the basin are the result of material that accumulated at the bottom of these seas before being uplifted.

A single, massive fossil-rich bed of gray Mississippian limestone is located above the project area. West of the project area even older marine strata are visible. The Paleozoic layers are folded and faulted by movements along the great thrust faults of the Sevier Orogeny in the cliffs above the Morgan Valley. The Morgan Valley sits in a half graben, or faulted valley, that only dropped down on one side. Volcanic rocks mantle older rocks in the hills to the west (Wallace 2011).

The project area is located at an approximate elevation of 5,500 feet and consists of agricultural fields and local roadways. Information obtained from the Natural Resources Conservation Service (NRCS) indicates that most of the project area is dominated by Mondey clay loam soils, ranging from 8 to 30 percent slopes. The composition of the soil in the project area is detailed in Table 3-2, and a map showing the composition of the soil can be found in Appendix B. Soil Survey.

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

| Soil Type | Percent of Project Area |
|--|--------------------------------|
| Mondey clay loam, 8 to 15 percent slopes | 27.1 percent |
| Mondey clay loam, 15 to 30 percent slopes | 22.9 percent |
| Morgala-Rock outcrop, 30 to 60 percent slopes | 11.0 percent |
| Richville gravelly loam, 30 to 60 percent slopes | 9.2 percent |
| Manila loam, 25 to 40 percent slopes | 6.3 percent |
| Hawkins silty clay, 3 to 6 percent slopes | 4.0 percent |
| Cumulic Haploborolis, wet | 3.7 percent |
| Causey silt loam, 30 to 60 percent slopes | 3.4 percent |

3.3.1.1 No Action

Under the No Action Alternative, there may be minor long-term adverse effects to soil erosion and sedimentation. Seepage of irrigation waters from the existing pipeline into the project area may increase soil erosion in some areas. Soil erosion from natural occurrences of water and wind would continue in the area at the current rate.

3.3.1.2 Proposed Action

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

3.3.2 Visual Resources

The visual resources within the project area are related to the area's agricultural activities and adjacent topographic features. The elevation of the project area on average is 5,500 feet above sea level. Most of the project area has been previously disturbed and converted to agricultural or residential uses.

3.3.2.1 No Action Alternative

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

3.3.2.2 Proposed Action

Under the Proposed Action, the proposed pipeline would be buried within an existing open ditch. The site would be graded and reseeded with native plants to establish pre-construction conditions to the greatest extent possible. Given the agricultural nature of the project area, visual impacts associated with construction activities would be temporary. There would be no long-term impacts to the visual resources within the project area.

3.3.3 Cultural Resources

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

Section 106 of the NHPA mandates that Reclamation take into account the potential effects of a proposed Federal undertaking on historic properties.

Historic properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for, inclusion in the National Register of Historic Places (NRHP). Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

The affected environment for cultural resources is identified as the area of potential effects (APE), in compliance with the regulations to Section 106 of the NHPA (36 CFR 800.16). The APE is defined as the geographic area within which federal actions may directly or indirectly cause alterations in the character or use of historic properties. The APE for this proposed action includes the area that could be physically affected by any of the proposed project alternatives (the maximum limit of disturbance).

A Class I records search and cultural resources pedestrian survey were completed for the Proposed Action's APE by ArchaeoLogic, LLC. in October 2017. A total of 65.3 acres was inventoried via pedestrian survey to identify any cultural resources within the APE. ArchaeoLogic identified four new cultural resource sites, a segment of one previously-documented cultural resource site, and one isolated occurrence during the field inventory (Beers and Stuart 2018).

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

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

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

Site 42MO41, Hardscrabble Canyon Road, was originally documented in 2003 by Alpine Archaeological Consultants, Inc. (Reed 2003). The historic road meets the current project APE near the existing pond and southern staging area at the southernmost portion of the proposed pipeline alignment. Given no notable differences in condition from the previous 2009 site descriptions and what was observed during field survey for the current project, the NRHP eligibility determined from the 2009 documentation remains the same. Site 42MO41 was

determined eligible for the NRHP under Criteria A and B. Under Criterion A, the site is eligible for:

- Its importance as an early transportation route that facilitated the region's timber industry;
- Its relationship to the Mormon colonization of the Wasatch Mountains; and,
- Its contribution to the Union Pacific Railroad in Morgan County (i.e., timber for railroad construction).

Under Criterion B, the site is eligible for association with members of the Porter family, who played major roles in the road's original construction and who were important in the area's history and development. The community of Porterville is named after the family.

Site 42MO79 consists of the remnants of a dismantled, concrete and stone-and-brick foundation chicken coop. The site is not eligible for the NHRP under any of the eligibility criteria.

Residents of the Porterville and Richville communities constructed site 42MO80, the West Porterville Ditch, in 1865. During the field inventory for the current project, ten segments and six features of the ditch within the APE and survey area were recorded. Site 42MO80 is recommended eligible for the NRHP under Criterion A. The West Porterville Ditch played an important role in settlement and agricultural development of the Richville and Porterville communities in Morgan County.

Site 42MO81 is a historic artifact scatter. Site 42MO81 is recommended as ineligible for the NRHP under all of the eligibility criteria.

Site 42MO82 is the concrete remnants of a hydroelectric plant. The site is recommended ineligible for the NRHP due to its lack of integrity.

Table 3-3 summarizes the cultural resource sites within the APE and survey area along with their NRHP eligibility recommendations. Site 42MO80 (West Porterville Ditch) is recommended eligible for the NRHP. Site 42MO41 (Hardscrabble Canyon Road) was previously determined eligible for the NRHP and, given the current condition of the site, is recommended that it remain NRHP-eligible. Sites 42MO79, 42MO81, and 42MO82 are not recommended eligible for the NRHP.

**Table 3-3
Cultural Resource Sites within the APE and Survey Area**

| Site Number | Date | Description | NRHP Eligibility |
|-------------|--|--|----------------------------|
| 42MO41 | Ca. 1871 | Segment of the historic Hardscrabble Canyon Road | Eligible, Criteria A and B |
| 42MO79 | Unknown | Dismantled historic chicken coop | Ineligible |
| 42MO80 | 1865 | Segments of the historic West Porterville Ditch | Eligible, Criteria A and B |
| 42MO81 | Possibly early-1930s, but no definitive date | Historic artifact scatter | Ineligible |
| 42MO82 | 1912-15 | Historic hydroelectric power plant remnants | Ineligible |

The Proposed Action would pipe approximately 4.75 miles of the existing WPIS. The Proposed Action would include ground disturbance and may have an adverse effect on features that contribute to the NRHP eligibility of Site 42MO80. The proposed project will have no adverse effect on Site 42MO41.

Reclamation consulted with SHPO about this project. The SHPO concurred with Reclamation’s determination that there would be adverse effects to the historic ditch due to this project (Appendix C. Cultural Resources).

3.3.3.1 No Action

Under the No Action Alternative, there would be no foreseeable impacts to cultural resources. There would be no need for ground disturbance for pipe installation, nor any disturbance from staging areas. The existing pipeline would remain in place with little to no modifications, and the existing West Porterville Ditch would remain open and in its present condition. The existing condition of the historic sites would remain intact and would not be affected.

3.3.3.2 Proposed Action

Under the Proposed Action, 4.75 miles of the existing WPIS would be replaced with an HDPE pipeline largely buried in the existing West Porterville Ditch. Modifications to Site 42MO80 may result in an adverse effect. Mitigation measures for the adverse effect to the site are outlined in the MOA dated July 27, 2018. The mitigation measures are in accordance with 36 CFR 800.6 (c).

3.3.4 Paleontological Resources

Paleontological resources are defined as any fossilized remains, traces, or imprints of organisms, preserved in or on the earth’s crust, that are of paleontological interest and that provide information about the history of life on earth. Any materials associated with an archaeological resource as defined in Section 3(1) of

the Archaeological Resources Protection Act (ARPA) (16 U.S.C. 470bb(1)) and any cultural item as defined in Section 2 of the Native American Graves and Repatriation Act (NAGPRA) (25 U.S.C. 3001) are not considered paleontological resources. Section 6302 of the Paleontological Resources Preservation Act (PRPA) of 2009 (Sections 6301-6312 of the Omnibus Land Management Act of 2009 [Public Law 111-11 123 Stat. 991-1456]) requires the Secretary of the Interior to manage and protect paleontological resources on Federal land using scientific principles and expertise.

The potential impact area for paleontological resources is consistent with the APE for cultural resources, as described in Section 3.3.3. Project excavation would not extend into any bedrock fossil bearing formations. Furthermore, coordination with Utah Geological Survey (UGS) indicates that there are no paleontological localities recorded in the project area. Alluvial deposits that are exposed in the project area have a low potential for yielding significant fossils in this locality (Appendix D. Paleontological Resources).

3.3.4.1 No Action

Under the No Action Alternative, there would be no foreseeable impacts to paleontological resources. There would be no need for ground disturbance for any pipe installation, nor any disturbance to staging areas. The existing conditions would remain intact and would not be affected.

3.3.4.2 Proposed Action

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

3.3.5 Hydrology

Water resources in the general vicinity of the project area include East Canyon Creek which runs south to north through Porterville, and Hardscrabble Creek which merges with East Canyon Creek near its intersection with State Route-66 (SR), east of the central portion of the project area (Appendix E. Water Resources). Water is diverted from Hardscrabble Creek into the WPIS and held in a regulating pond that is part of the WPIS. The water is then released from the regulating pond to maintain consistent pressure into a central pipeline that conveys water into each of the lateral pipelines for individual users. There are no other water resources in the general vicinity of the project area.

3.3.5.1 No Action

The hydrology in the project area would remain unaltered in its current state under the No Action Alternative. A greater demand for water from the natural hydrological resources in the area may result as seepage and operational losses would continue to influence the efficiency of the WPIS. These conditions may

result in a long-term negative impact to the hydrology in the project area, especially ground water hydrology related to residential well withdrawal. As the WPIS would continue to experience breaks and water losses, more residential users may find it necessary to use their culinary water sources to supplement their lack of irrigation water for gardens and flowers.

3.3.5.2 Proposed Action

Piping of the WPIS would reduce seepage and operational water losses, which would reduce long-term demands on other natural hydrological resources in the area. Additionally, the project would allow the WPIS to be more resilient in times of drought by creating an efficient, leak-free system that would allow WPIC water users to realize more of their allotted water shares.

The Proposed Action would prevent seepage and increase efficiency of water delivery through the WPIS pipeline. The increased efficiency of the piped system would not result in any new water rights allocations. The water would continue to be used for agricultural purposes and would not alter the water rights, water usage, or amount of water in the current system beyond allowing water users to receive more of their allotted water shares. The Proposed Action would not disturb or impact the hydrology of natural water resources within the vicinity of the project area.

3.3.6 Water Quality

The WPIS is currently a piped system, providing irrigation to agricultural users. As the existing asbestos concrete pipeline deteriorates, seepage and water losses would continue to degrade water resources in the area by increasing salts and sediment in the water. The WPIS currently loses approximately 540 acre-feet of water annually.

3.3.6.1 No Action

There would be no effect to water quality from the No Action Alternative.

3.3.6.2 Proposed Action

The Proposed Action would remove leaks from the WPIS. Reduced water losses from leaking pipes would result in reduced demands on alternate water resources to meet the irrigation needs. The Proposed Project would allow WPIC to conserve approximately 540 acre-feet of water annually, simply by replacing the existing leaky pipeline. Therefore, the Proposed Action is anticipated to have a long-term beneficial impact to water quality.

3.3.7 System Operations

The WPIS provides water delivery to agricultural users in the surrounding area in Morgan County. Water is drawn from Hardscrabble Creek and held in a regulating pond before being released through the existing pipeline to water users lower in the valley. The WPIS manages 1,760 acre-feet of water in the system. The existing regulating pond holds approximately 0.8 acre-feet of water during the irrigation season. Irrigation water in the WPIS is currently conveyed through

a deteriorating buried pipeline, which requires extensive maintenance and results in approximately 30 percent of the water being lost to leaking pipes. The current system is a gravity fed pressurized system, which requires no pumps or alternative sources of power to operate. As part of the Field Service Water Management and Conservation Plan completed for WPIC in 2016, the potential for hydroelectric power generation was evaluated.

3.3.7.1 No Action

Under the No Action Alternative, the WPIS would continue to operate under current conditions. Existing water losses in the system would continue and potentially increase as the asbestos concrete pipeline continues to deteriorate over time. To compensate for water losses, the irrigation season would need to be shortened or some water users may not receive their water shares, which would likely result in economic losses to agricultural users in the project area. Maintenance requirements associated with the pipeline would continue to increase due to deterioration of the existing pipeline.

3.3.7.2 Proposed Action

The Proposed Action Alternative would replace the existing asbestos concrete pipeline with 25,075 linear feet of HDPE pipeline, and would install a 15-kilowatt micro-hydro/PRV station, which would produce 55,080 kWh of energy per year to provide pressure regulation, and power to agricultural barns and maintenance sheds along the alignment. A traditional PRV station would be installed parallel to the micro-hydro station in case of failure of the micro-hydro pressure regulation, and for the potential need to bypass water.

The Proposed Action would increase the efficiency of the system operations by reducing the amount of water lost through the deteriorating pipeline. System operations would also improve under the Proposed Action as maintenance would be greatly reduced. The Proposed Action would therefore result in a long-term beneficial impact on the operations of the WPIS.

3.3.8 Air Quality and Noise

3.3.8.1 Air Quality

The U.S. Environmental Protection Agency (EPA) and the Utah Division of Air Quality (UDAQ) regulate air quality in the project area. The National Ambient Air Quality Standards (NAAQS) established by the EPA under the Clean Air Act (CAA) specify limits for criteria air pollutants of carbon monoxide, particulate matter (PM 10 & PM 2.5), ozone, sulfur dioxide, lead and nitrogen. If the levels of a criteria pollutant in an area are higher than the NAAQS, the area is then designated as a “nonattainment area.” Areas that meet the NAAQS for criteria pollutants are designated as “attainment areas.”

3.3.8.2 Noise

The ambient noise within the project area includes a combination of natural sounds (wind, bird, and insect calls) and mechanical sounds (cars, trucks, tractors,

etc.). In general, noise levels are consistent with rural communities, likely averaging from 30 to 60 A-weighted decibels (dBA) based on the agricultural activity level of the project area.

3.3.8.3 No Action

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

3.3.8.4 Proposed Action

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

Noise and air quality impacts would be mitigated through the implementation of BMPs throughout the construction phase. The BMPs would include the preparation and filing of a Fugitive Dust Control Plan with the UDAQ. The project area is located in an attainment area (EPA 2018). Air quality in the project area is not in exceedance of any thresholds for criteria pollutants. The Proposed Action would not increase any criteria pollutants in the airshed and would therefore not result in violation of any existing or proposed rules relating to the reduction of criteria pollutants. The Proposed Action would not impact air quality limits for criteria pollutants in Morgan County. There would be no long-term impacts to air quality or noise from the Proposed Action.

3.3.9 Prime and Unique Farmlands

The project area is comprised primarily of agricultural lands. A review of the NRCS Soil Survey indicates that the project area contains soils that are classified as prime farmland if irrigated (Appendix B. Soil Survey). The Proposed Action would not convert the use of any farmland, and would not facilitate the irrigation of lands not previously irrigated by the WPIS.

3.3.9.1 No Action

Under the No Action Alternative, approximately 540 acre-feet of water would continue to be lost from the WPIS, resulting in less water available for agricultural use. Given that large portions of the soils in the project area are classified as prime farmland if irrigated, the No Action Alternative may result in long-term negative impacts on farmland due to water shortages in the general vicinity of the project area.

3.3.9.2 Proposed Action

A review of the NRCS Soil Survey indicates that there are soils in the project area that are classified as prime farmland soils if irrigated. While the Proposed Action would temporarily disturb land, there would be no conversion of agricultural land

to nonagricultural land uses. Any newly disturbed agricultural areas would be re-contoured to preconstruction conditions and reseeded with agricultural seed mixes as appropriate for the existing land use. Increasing the efficiency of the WPIS and reducing water losses would provide for a more secure and consistent water delivery system to the existing agricultural resources in the project area. The Proposed Action would therefore, likely result in a long-term beneficial impact to farmland resources.

3.3.10 Floodplains

Executive Order 11988: Floodplain Management (E.O. 11988) (May 24, 1977) established Federal policy requiring federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The E.O. 11988 defines a floodplain as lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year. Encroachment from development or modification actions into floodplains can reduce the flood-carrying capacity of the floodplain and can extend the flooding hazard beyond the encroachment area.

According to information obtained from the Federal Emergency Management Agency's (FEMA) Flood Insurance Mapping system, the project is located outside of mapped floodplain areas (FEMA 2018). There are no known floodplain areas, or other flood prone areas within the project area.

3.3.10.1 No Action

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

3.3.10.2 Proposed Action

The Proposed Action would not construct any new structures or flooding hazards in a floodplain area because the project area is not located in a floodplain or flood prone area. Precipitation or spring runoff that are naturally collected in the irrigation system would be managed in the regulating pond or would percolate through the soil surrounding the irrigation system. To summarize, there are no floodplains or other flood hazard areas in the project area. Therefore, the Proposed Action would have no impact on floodplains or the potential for flooding in the project area.

3.3.11 Wetlands, Riparian Areas, and Vegetation

Riparian vegetation exists outside of the project area along East Canyon Creek and along Hardscrabble Creek. Riparian vegetation exists outside of the project area between the retention pond and the active creek channel. Vegetation is largely dominated by narrowleaf cottonwood (*Populus angustifolia*), coyote

willow (*Salix exigua*), red osier dogwood (*Cornus alba*), leafy spurge (*Euphorbia esula*) and perennial ryegrass (*Lolium perenne*).

The U.S. Fish and Wildlife Service's (USFWS's) National Wetlands Inventory (NWI) database was consulted to evaluate the presence of wetland features in the vicinity of the project area. A field survey was also performed by two qualified wetland specialists in October 2017. The NWI map and the information obtained during the field assessment indicates that there are no wetlands located within the project area (Appendix E. Water Resources). Vegetation, soils, and hydrology were not present at any point along the alignment. The existing alignment and proposed changes to the alignment are dominated by upland species and do not have wetland hydrology or hydric soils.

3.3.11.1 Noxious Weeds

Noxious weeds and nonnative species exist throughout the project area, specifically along roadways, pipeline ditches, staging areas, and other highly disturbed areas. Noxious weeds present within the project area include curly dock (*Rumex crispus*), Canada thistle (*Cirsium arvense*), rush skeletonweed (*Chondrilla juncea*), and cheat grass (*Bromus tectorum*).

3.3.11.2 Existing Vegetation

The majority of the land in the project area is comprised of human-altered vegetation, specifically agricultural uses. Agricultural activities have replaced native upland vegetation with pasture grasses in many locations throughout the project area. Non-agricultural vegetation, such as perennial ryegrass and Canada thistle are common in disturbed areas along roadways and access roads. In addition to the plant species associated with the human-altered environment, the project area contains some native upland vegetation species, such as big sagebrush (*Artemisia tridentata*), scrub oak (*Quercus gambelii*), and narrowleaf cottonwood.

3.3.11.3 No Action

The existing vegetation in the project area would remain in its current condition, experiencing minor fluctuations in quantity and quality, as naturally occurring precipitation patterns vary. There would be no effect to vegetation from the No Action Alternative as these plant communities would remain in their current condition, and are not anticipated to experience sizeable gains or losses from maintenance activities.

3.3.11.4 Proposed Action

Under the Proposed Action, there would be no loss of wetlands because there are no wetlands present within the boundaries of the project area. Some upland areas within and surrounding the existing pipeline alignment would likely experience permanent losses of seepage-dependent vegetation once the existing leaky pipeline is replaced. During construction, agricultural grasses and some native upland vegetation would be impacted by the operation of equipment, excavation activities, and the staging of materials. All areas disturbed by construction

activities would be re-contoured and reseeded. After completion of the re-contouring and reseeded, native habitat loss would be negligible and the site should return to preconstruction conditions within a few growing seasons. Upland vegetation communities would likely be reestablished, and some previously disturbed areas may see an increase in native species composition after reseeded. Areas that are disturbed would be more vulnerable to non-native species and noxious weed infestation. These non-native species typically recover more quickly after a disturbance than native species. To minimize impacts to native vegetation, previously disturbed areas would be used for construction activities, where possible. Cultivated lands that are disturbed by construction activities would be reseeded with an appropriate agricultural mix.

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

3.3.12 Fish and Wildlife Resources

Fish and wildlife in the general vicinity of the project area includes large mammals, small mammals, raptors, waterfowl, migratory songbirds, upland game birds, and a small number of reptiles and amphibians.

3.3.12.1 Fish

There is no viable fish habitat within the majority of the project area, as all existing segments of the WPIS are piped and are not fish supporting waterways. Hardscrabble Creek runs adjacent to the retention pond. The creek is not within the Proposed Action area and the Proposed Action would not disturb the Hardscrabble Creek channel. The WPIC would continue to draw the same amount of water from Hardscrabble Creek through a screened diversion. The WPIC has water rights for 3/5 of the flow of Hardscrabble Creek (JUB 2016). The Proposed Action would have no impact to fish habitat.

3.3.12.2 Wildlife

The landscapes surrounding the proposed project area provide year-round and crucial winter habitat to mule deer (*Odocoileus hemionus*). In addition, other mammals may frequent the general vicinity of the project area. These species include coyote (*Canis latrans*), pocket gopher (*Thomomys talpoides*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*).

3.3.12.3 Birds

Various raptors, waterfowl, and upland game bird species may be found year-round in and near the project area, including red-tailed hawk (*Buteo jamaicensis*),

American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), and mourning dove (*Zenaida macroura*). Seasonally, a variety of migratory songbirds may also pass through the vicinity of the project area. Additionally, the area above the project area that surrounds the East Canyon Reservoir is year-round habitat for the greater sage-grouse (*Centrocercus urophasianus*), however according to the Utah Division of Wildlife Resources (UDWR) the project area is not within any management units for active leks, nesting areas, nor winter habitat.

3.3.12.4 Reptiles and Amphibians

Reptiles and amphibians that may occur in the project area include the common garter snake (*Thamnophis sirtalis fitchi*), common sagebrush lizard (*Sceloporus graciosus*), and western skink (*Eumeces skiltonianus*).

3.3.12.5 No Action

Under the No Action Alternative, fish and wildlife habitat would remain in its current condition. Water losses and demands for water resources would continue at current rates.

3.3.12.6 Proposed Action

The Proposed Action Alternative may result in minor, short-term impacts to wildlife species in the project area due to ground disturbance activities and noise associated with construction. There would be some upland habitat temporarily lost due to pipeline construction; however, similar habitat is immediately available in the surrounding area.

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

During pipeline construction there could be short-term displacement of wildlife that normally occupy the immediate area. All construction activities would occur within a 100-foot-wide area along the proposed pipeline alignment. Generally, wildlife would move easily to find alternative areas for forage and cover, and would likely return after construction and maintenance operations have been completed. Some upland habitats would experience short-term disturbance until native vegetation components within these areas are restored (potentially 2 to 3 growing seasons).

Impacts to raptors and other avian species would include minor short-term disturbance and displacement during construction, with no long-term impacts after construction. Any vegetative clearing would take place outside of the migratory bird nesting season, and therefore should not impact breeding or

nesting birds. All disturbed soils or areas of vegetation removal would be reseeded with native seed appropriate to the growing conditions of the proposed project area.

Any impacts to wildlife species would be anticipated to be temporary in duration. Impacts associated with the Proposed Action would not be anticipated to cause long-term impacts to any wildlife species.

3.3.13 Threatened, Endangered, and Sensitive Species

The Endangered Species Act (ESA) list for the proposed project area includes two threatened species. Species listed as threatened include the Canada lynx (*Lynx canadensis*) and the yellow-billed cuckoo (*Coccyzus americanus*). These species and the status of documented occurrences in the project area are detailed in Table 3-4.

**Table 3-4
Federally Listed Species with Potential to Occur
Within the Proposed Project Area**

| Species | ESA Status | Documented Occurrence in Proposed Project Area |
|--|------------|--|
| Canada lynx (<i>Lynx canadensis</i>) | Threatened | No |
| Yellow-billed cuckoo (<i>Coccyzus americanus</i>) | Threatened | No |

According to correspondence with the UDWR on October 30, 2017, there are no recent or historical records of any ESA listed species within the proposed project area. The UDWR also identified those species listed on the Utah Sensitive Species List for which there are recent records of occurrence within a ½-mile or 2-mile radius of the proposed project area. Table 3-5 summarizes the state sensitive species identified by UDWR.

**Table 3-5
Utah State Sensitive Species with Potential to Occur
Within the Proposed Project Area**

| Species | Status | Documented Occurrence in Proposed Project Area |
|---|-----------------|--|
| Bald Eagle <i>(Haliaeetus leucocephalus)</i> | State Sensitive | Within ½-mile radius |
| Bonneville cutthroat trout <i>(Oncorhynchus clarki utah)</i> | State Sensitive | Within ½-mile radius |
| Bobolink <i>(Dolichonyx oryzivorus)</i> | State Sensitive | Within 2-mile radius |
| Bluehead sucker <i>(Catostomus discobolus)</i> | State Sensitive | Within 2-mile radius |

Qualified biologists from J-U-B Engineers conducted a site visit in October 2017 (Appendix F. Biological Resources). Information obtained during the biological site assessment indicates that there is no suitable habitat for the Canada lynx or the yellow-billed cuckoo. Additionally, the Proposed Action would not affect habitat for the bluehead sucker or the Bonneville cutthroat trout as there would be no instream work under the Proposed Action and therefore, would have no effect to individuals of these fish species. There is suitable habitat within the project action area for bald eagle, however, most of the landscape within the project action area is highly disturbed agricultural fields and in the proximity of houses and roads. The proposed project would not impact any known areas of bald eagle roosts or nest trees. No bald eagle nests have been observed in or adjacent to the project area and UDWR is not aware of any active nests in the area. Given the timing of the Proposed Action, no effects to the bobolink would be anticipated because the project actions would take place outside of the breeding, nesting and brooding seasons for this migratory species.

3.3.13.1 No Action

The No Action Alternative would have no effect to any federally listed species, as suitable habitat does not currently exist within the proposed project area for the Canada lynx or the yellow-billed cuckoo. Under the No Action Alternative, the existing WPIS would continue to leak and lose efficiency due to deterioration of the Transite piping. The leaky system may cause greater demands on local water sources, which could negatively affect quality habitat for the bluehead sucker and Bonneville cutthroat trout outside of the project area.

3.3.13.2 Proposed Action

There are no recent documented occurrences of federally listed threatened species within the proposed project area. Biological surveys determined that the Proposed Action would have no effect on the two federally listed species, nor on the state sensitive species, identified as potentially occurring within the proposed project area (Appendix F. Biological Resources).

3.3.14 Socioeconomics

Information obtained from the 2010 U.S. Census, indicates that Porterville, Utah has a total population of 2,914 residents. The primary socioeconomic drivers in the Morgan County area are civilian employment both inside and outside of Morgan County, agriculture, and services related activities, such as construction and manufacturing (ACS 2016). The median annual income in Morgan County, Utah was \$80,865 in 2016 (ACS 2016). Data regarding the economic standing of residents located along the precise project corridor was not available. However, the 2010 U.S. Census data indicates that 4.1 percent of Morgan County residents' incomes were below the poverty level. Therefore, a low-income population could have the potential to exist in the general vicinity of the Proposed Action.

3.3.14.1 No Action

Under the No Action Alternative, existing socioeconomic conditions are anticipated to continue. The No Action Alternative could pose a long-term negative effect on socioeconomic conditions of those who rely on the WPIS for agricultural activities. Over time, water system inefficiency and deterioration could pose reduced socioeconomic opportunities and reduced agricultural activities for those living in the project area and reliant on the WPIS.

3.3.14.2 Proposed Action

The project area is located on privately owned land in Morgan County, Utah. After a review of the 2010 U.S. Census information, populations that could potentially experience an effect from the Proposed Action were evaluated. The Proposed Action would not be anticipated to have a large impact on the socioeconomic conditions in the project area or the general vicinity. The Proposed Action would not involve population relocation, property takings, or substantial economic impacts. However, the Proposed Action would be anticipated to have a long-term beneficial impact on the agricultural activities in the area by increasing the efficiency of the water delivery system, which could allow farmers to irrigate longer and produce higher yields of hay or other crops. Approximately 540 acre-feet of water is anticipated to be saved annually. A potential increase in crop yield would be anticipated to have a small positive impact to socioeconomic conditions for farmers.

3.3.15 Public Health and Safety, Access, and Transportation

3.3.15.1 Public Health and Safety

The project is located in an agricultural area of Morgan County, Utah. Safety concerns include those related to typical vehicle and truck traffic occurring along highways and local roadways. Major transportation facilities in the area include State Highways 65 and 66, both located within a 0.50 mile of the project area. Interstate 84 is located within 2-miles and is situated north of the project area. Other roadways in the project area include minor local and county roadways that carry light traffic. There are no other known safety or public health concerns in the project area.

Public safety resources in the general vicinity of the project area include the Morgan County Sheriff Department, which is located within 2 miles of the project area.

3.3.15.2 Access and Transportation

Transportation resources in the project area include local roadways such as South Morgan Valley Drive, Hardscrabble Road, 600 West, and various dirt access roads to private parcels. There are no major transportation facilities located in the project area. Utah SR-66 runs east of the general project area, but not through the actual project location. There are no major arterial roadways or access points for SR-66 in the project area.

No road closures would be anticipated with the Proposed Action. The Morgan County Road Department, Morgan County Sheriff's Department and the Morgan County Emergency Service Departments would be notified of any construction activities associated with the Proposed Action, which would temporarily impact local roads.

3.3.15.3 No Action

Under the No Action Alternative, there would be no changes to the access and transportation routes presently in operation. Additionally, existing public health and safety facilities and resources would not experience any changes under the No Action Alternative. Existing facilities would continue to operate in their existing condition.

3.3.15.4 Proposed Action

The Proposed Action Alternative would have no impacts on public health and safety in the project area. Emergency dispatch services, including the local fire and police, would not be impacted by the Proposed Action. Under the Proposed Action, there would be no changes to access and transportation routes presently in operation. The proposed alignment would cross Hardscrabble Road in one location. The proposed pipeline would be placed under the existing roadway. During construction activities, it may be necessary to temporarily close one lane of traffic. One lane of traffic would be maintained to provide to access for local residents and emergency services. The Proposed Action may cause limited delays at this location, and along local roads due to construction vehicles entering and existing the area. There are no anticipated long-term impacts to access or transportation resources from the Proposed Action.

3.4 Water Rights

The WPIC has water rights that originate as far back at 1862, the earliest water right in the area. Two of those water rights allow withdrawal from Hardscrabble; both of which include flood flows of 10.12 cfs (high 6.75 cfs and low 3.80 cfs). This is equivalent to approximately 3/5 of the flow in Hardscrabble Creek.

3.4.1 No Action

There would be no change to existing water rights under the No Action Alternative. However, the continued seepage of water from the existing leaking pipeline is expected to continue and possibly worsen in the future. As water is lost along the pipeline, it makes it more difficult for users at the end of the WPIC to receive their full water right allotment. According to the WPIC Master Plan, many users at the end of the pipeline have not received their allocated shares of water for more than 5 years (J-U-B 2016). Due to these conditions, the No Action Alternative may have a long-term negative impact on water rights.

3.4.2 Proposed Action

The Proposed Action would not require any additional water rights. There would also be no changes to existing water rights under the Proposed Action. The Proposed Action, however, may have a beneficial impact on water rights by allowing for the full amount of the water right to be efficiently delivered to water users along the full length of the WPIC system.

3.5 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. The ITAs can be real property, physical assets, or intangible property rights, such as lands, minerals, hunting and fishing rights, and water rights. The United States has an Indian trust responsibility to protect and maintain rights reserved by or granted to such tribes or individuals by treaties, statutes, and executive orders. These rights are sometimes further interpreted through court decisions and regulations. This trust responsibility requires that all Federal agencies take all actions reasonably necessary to protect trust assets. Reclamation carries out its activities in a manner which protects these assets and avoids adverse impacts when possible. When impacts cannot be avoided, Reclamation would provide appropriate mitigation or compensation.

3.5.1 No Action

There are no known tribal assets or other ITAs within or adjacent to the project area. Therefore, the No Action Alternative would have no impact on ITAs.

3.5.2 Proposed Action

Given that there are no known ITAs in the general vicinity of the project area and that no comments were received during the tribal coordination implementation of the Proposed Action would have no foreseeable negative impacts on ITAs.

3.6 Environmental Justice

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

Information obtained from the 2010 U.S. Census, indicates that Porterville, Utah has a total population of approximately 2,914 residents. Of the total residents in Morgan County, approximately 2.4 percent identified as an ethnic minority. Data regarding the economic standing of residents located directly along the project corridor was not available at the time this EA was prepared. The 2010 U.S. Census data indicates that 4.1 percent of Morgan County residents' incomes were below the poverty level. Therefore, a minority and/or low-income population may exist in the general vicinity of the project area.

3.6.1 No Action

Under the No Action Alternative existing conditions in the project area are anticipated to continue in their current state. No impacts to environmental justice population are expected. And therefore, any minor or low-income residents in general vicinity would not be impacted by the No Action Alternative.

3.6.2 Proposed Action

A minority and/or low-income population may exist in the general vicinity of the project area. However, implementation of the Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the Project area. The reason for this is that the proposed project would not involve major facility construction, population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. This action would therefore have no adverse human health or environmental effects on minority or low-income populations.

3.7 Cumulative Effects

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

The Proposed Action would comply with all relevant Federal, state, and local permits. The proposed area and duration of disturbance under the Proposed Action would be minimal and short-term. Long-term impacts are not anticipated to create negative cumulative impacts to environmental resources. The Proposed Action would be anticipated to result in a positive cumulative impact on water conservation. Based on Reclamation’s resource specialists’ review of the Proposed Action, Reclamation has determined that this action would not have a significant adverse cumulative effect on any resources.

3.8 Summary of Environmental Effects

Table 3-6 summarizes environmental effects under the No Action and the Proposed Action. This table does not include resources that were eliminated from analysis (detailed in Table 3-1).

**Table 3-6
Summary of Environmental Effects**

| Project Resource | No Action | Proposed Action |
|---------------------------------------|--|--|
| Recreation Resources | No Effect | No Effect |
| Wilderness, or Wild and Scenic Rivers | No Effect | No Effect |
| Water Rights | No Effect | No Effect |
| Geology and Soils | Minor potential for long-term increases to soil erosion or sedimentation from leaky pipeline | Minor, short-term effects during and shortly after construction. Mitigate with BMPs. |
| Visual Resources | No Effect | No long-term impacts. Minor temporary impacts from construction activities. |
| Cultural Resources | No Effect | Adverse Effect to Site 42MO80. An MOA outlining mitigation measures for the Adverse Effect would be signed and implemented prior to the start of construction. |
| Paleontological Resources | No Effect | No Effect |
| Hydrology | Water lost to seepage would continue at present rate. Long-term | Long-term benefit due to increased efficiency of the water delivery |

| Project Resource | No Action | Proposed Action |
|---|--|--|
| | impacts to hydrological resources would be anticipated due to increasing water demands. | system, thereby reducing water demands. |
| Water Quality | No Effect | Long-term benefits to water quality by reducing seepage and erosion, and by reducing water demands. |
| System Operations | Long-term minor to moderate impacts from deteriorating system and maintenance requirements. | Long-term benefits from increased efficiency and decreased maintenance. |
| Air Quality and Noise | No Effect | Minor, short-term effects due to air quality and noise from construction activity. Mitigate with BMPs. |
| Prime and Unique Farmlands | No Effect | No Effect |
| Floodplains | No Effect | No Effect |
| Wetlands, Riparian Areas and Vegetation | No Effect | There would be minor permanent loss of upland vegetation. |
| Fish and Wildlife Resources | Minor long-term impacts to water demands affecting wildlife habitat | Minor short-term disturbance and displacement during construction activities. |
| Threatened, Endangered and Sensitive Species | No Effect | No Effect |
| Socioeconomics | Potential long-term negative impact to socioeconomic resources related to agricultural activities. | No Effect |
| Public Health and Safety, Access and Transportation | No Effect | Minor temporary disruptions on Hardscrabble Road. |
| Indian Trust Assets | No Effect | No Effect |
| Environmental Justice | No Effect | No Effect |
| Cumulative Effects | No Effect | Beneficial long-term effects on water conservation. |

Chapter 4 Environmental Commitments

Environmental Commitments, along with Minimization Measures in Section 2.6 have been developed to lessen the potential adverse effects of the Proposed Action.

4.1 Environmental Commitments

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

1. **Standard Reclamation BMPs** - Standard Reclamation BMPs will be applied during construction activities to minimize environmental effects and would be implemented by the contractor and included in construction specifications. Such practices or specifications include sections in the present EA on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, wildlife and threatened or sensitive species. Excavated material and construction debris may not be wasted in any stream or river channel in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at a Reclamation approved upland site well away from any channel. Construction materials, bedding material, excavation material, etc. may not be stockpiled in riparian or water channel areas. Silt fencing 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 construction.
2. **Additional Analyses** - If the Proposed Action were to change significantly from that described in this EA because of additional or new information, or if other spoil, or work areas beyond those outlined in this analysis are required outside the defined Project construction area, additional environmental analyses may be necessary.
3. **UPDES Permit** - A UPDES Permit would be required from the State of Utah because the project would disturb more than one acre of land. Appropriate measures would be taken to ensure that construction related sediments would not enter any natural waterway either during or after construction. Settlement ponds and intercepting ditches for capturing

sediments would be constructed, and the sediment and other contents collected would be hauled off the site for appropriate disposal upon completion of the Project.

4. **Fugitive Dust Control Permit** - The UDAQ regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than one-quarter of an acre. Utah Administrative Code R307-205-5, requires steps be taken to minimize fugitive dust from construction activities. The Contractor would be required to prepare and file fugitive dust control plan with UDAQ prior to the commencement of construction.
5. **Cultural Resources** - In the case that any cultural resources, either on the surface or subsurface, are discovered during construction, Reclamation's Provo Area Office archeologist shall be notified and construction in the area of the inadvertent discovery will cease until an assessment of the resource and recommendations for further work can be made by a professional archeologist.
6. **Inadvertent Discovery** - Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on Federal land, he/she must provide immediate telephone notification of the discovery to Reclamation's Provo Area Office Archaeologist. Work would stop until the proper authorities are able to assess the situation onsite. This action would promptly be followed by written confirmation to the responsible Federal agency official, with respect to Federal lands. The Utah SHPO and interested Native American Tribal representatives would be promptly notified. Consultation would 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).
7. **Adverse Effect to Cultural Resources** - The mitigation measures developed to address the Adverse Effect to Site 42MO80 would be implemented prior to the start of construction. The mitigation measures are outlined in the MOA dated July 27, 2018.
8. **Paleontological Resources** - Should vertebrate fossils be encountered by the proponent during ground disturbing actions, construction must be suspended until a qualified paleontologist can be contacted to assess the find.
9. **Wildlife Resources** – In the case that bald and/or golden eagles are observed within the project area and vicinity, Reclamation's Provo Area Office wildlife biologist shall be notified and construction in the area shall cease until an assessment of eagle presence can be made by a professional wildlife biologist. The Bald and Golden Eagle Protection Act prohibits

anyone, without a permit issued by the Secretary of the Interior, from “taking” eagles, including their parts, nests, or eggs. The Act defines “take” as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

New guidance pertaining to the Migratory Bird Treaty Act (MBTA) was issued on December 22, 2017, by the U.S. Department of the Interior under Secretarial Order 3345. Furthermore, the USFWS issued guidance through an M-Opinion. That guidance states 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.

10. **Previously Disturbed Areas** - Construction activities would be confined to previously disturbed areas where possible for such activities as work, staging, and storage, waste areas and vehicle and equipment parking areas. Vegetation disturbance would be minimized as much as possible.
11. **Public Access** - Construction sites would be closed to public access. Temporary fencing, along with signs, would be installed to prevent public access. The project team would coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the Project area.
12. **Disturbed Areas** - All disturbed areas resulting from the Project would be smoothed, shaped, contoured, and rehabilitated to as near the pre-construction condition as practicable. After completion of the construction and restoration activities, disturbed areas would be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (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 would be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas would be required.

Successful revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.

13. **Sensitive Species** – Construction activities would avoid impacts to natural streams, and would take place outside the nesting and brooding season for migratory birds.

Chapter 5 Consultation and Coordination

5.1 Introduction

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

5.2 Public Involvement

The project team has met with the WPIC, stakeholders and adjacent landowners throughout the project to provide opportunities to obtain information about the project. This coordination would continue throughout the implementation of the Proposed Action. The final EA and comment period are pending.

5.3 Native American Consultation

Reclamation conducted Native American consultation throughout the public involvement process. A consultation letter and copy of the Class III Cultural Resource Inventory Report were sent to the Northwestern Band of Shoshoni Nation, Shoshone-Bannock Tribes of the Fort Hall Reservation, and Shoshone Tribe of the Wind River Reservation, Wyoming on May 24, 2018. This consultation was conducted in compliance with 36 CFR 800.2(c)(2) on a government-to-government basis. Through this effort, the tribe is given a reasonable opportunity to identify any concerns about historic properties; to advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance; to express their views on the effects of the Proposed Action on such properties; and to participate in the resolution of adverse effects.

5.4 Utah Geological Survey

A paleontological file search from the UGS to determine the nature and extent of paleontological resources within the APE. File search results and

recommendations from the UGS were received in a letter dated March 20, 2018, (Appendix D. Paleontological Resources). No paleontological localities are recorded for the project area. According to the UGS review, the alluvial deposits exposed along the project area “have low potential for yielding significant fossil localities (PFYC 2)” (UGS 2018).

5.5 Utah State Historic Preservation Office

A copy of the Class III Cultural Resource Inventory Report and a determination of historic properties affected for the Proposed Action was submitted to the SHPO on May 24, 2018. The SHPO concurred with Reclamation in a letter dated May 29, 2018.

5.6 Bureau of Indian Affairs

The project does not occur in an area with ITAs.

Chapter 6 Preparers

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

**Table 6-1
Environmental Summary Preparers**

| Name | Title | Company |
|----------------|-----------------------|-----------------------|
| James D. Beers | Archaeologist | ArchaeoLogic, LLC. |
| Brian Deeter | Project Manager | J-U-B Engineers, Inc. |
| Autumn Foushee | Ecologist | J-U-B Engineers, Inc. |
| Jon Frazier | Project Engineer | J-U-B Engineers, Inc. |
| Marti Hoge | Environmental Lead | J-U-B Engineers, Inc. |
| Josh Hogge | Designer | J-U-B Engineers, Inc. |
| Lexie Yoder | Environmental Planner | J-U-B Engineers, Inc. |

**Table 6-2
Reclamation Team Members**

| Name | Title | Company |
|-----------------------|-----------------------------|-----------------------|
| Mr. Jared Baxter | ESA Coordinator | Bureau of Reclamation |
| Mr. Rick Baxter | WEL Manager | Bureau of Reclamation |
| Mr. Scott Blake | Recreation and Visual | Bureau of Reclamation |
| Mr. Peter Crookston | Chief, Environmental Group | Bureau of Reclamation |
| Mr. Thomas Davidowicz | Fish and Wildlife Biologist | Bureau of Reclamation |
| Mr. Preston Feltrop | Fish and Wildlife Biologist | Bureau of Reclamation |
| Mr. Jeff Hearty | Economist | Bureau of Reclamation |
| Mr. Rick Jones | Wildlife Biologist | Bureau of Reclamation |
| Mr. John Mann | Water Rights | Bureau of Reclamation |
| Ms. Linda Morrey | Secretary | Bureau of Reclamation |
| Mr. Zachary Nelson | Archaeologist | Bureau of Reclamation |
| Mr. Spencer Strand | Engineer | Bureau of Reclamation |

Table 6-3
Federal, State, or District Members

| Name | Title | Company |
|---------------------|--------------------------------|---|
| Mr. Kip Adams | President | West Porterville Irrigation Company |
| Ms. Martha Hayden | Paleontological Assistant | Utah Geological Survey |
| Ms. Ashley Kraetsch | Project Manager | U.S. Army Corps of Engineers |
| Ms. Sarah Lindsey | Information Manager | Utah Division of Wildlife Resources |
| Mr. Chris Merritt | Deputy Antiquities Coordinator | Utah State Historic Preservation Office |
| Mr. Scott Walker | Habitat Manager | Utah Division of Wildlife Resources |
| Ms. Dana Watt | Secretary | West Porterville Irrigation Company |

Chapter 7 Acronyms and Abbreviations

| Abbreviations | Meaning |
|----------------------|---|
| APE | Area of Potential Effect |
| ARPA | Archaeological Resources Protection Act |
| BIA | Bureau of Indian Affairs |
| BMPs | Best Management Practices |
| CAA | Clean Air Act |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| CFS | Cubic Feet Per Second |
| dBA | A-weighted Decibels |
| UDEQ | Utah Department of Environmental Quality |
| DWRi | State of Utah Division of Water Rights |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| E.O. | Executive Order |
| EPA | Environmental Protection Agency |
| ESA | Endangered Species Act |
| FEMA | Federal Emergency Management Agency |
| FONSI | Finding of No Significant Impact |
| HDPE | High-Density Polyethylene |
| ITAs | Indian Trust Assets |
| kWh | Kilowatt |
| MSL | Mean Sea Level |
| NAAQS | National Ambient Air Quality Standards |
| NAGPRA | Native American Graves and Repatriation Act |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| NWI | National Wetlands Inventory |
| PM 2.5 | Particulate Matter 2.5 microns |
| PM 10 | Particulate Matter 10 microns |
| PRPA | Paleontological Resources Preservation Act |
| PRV | Pressure Reduction Valve |
| Reclamation | U.S. Bureau of Reclamation |
| SHPO | Utah State Historic Preservation Office |
| UDAQ | Utah Division of Air Quality |

| Abbreviations | Meaning |
|----------------------|---|
| UDWR | Utah Division of Wildlife Resources |
| UDWQ | Utah Division of Water Quality |
| UGS | Utah Geological Survey |
| UPDES | Utah Pollution Discharge Elimination System |
| USFWS | U.S. Fish and Wildlife Service |
| USC | United States Code |
| USACE | U.S. Army Corps of Engineers |
| WPIC | West Porterville Irrigation Company |
| WPIS | West Porterville Irrigation System |

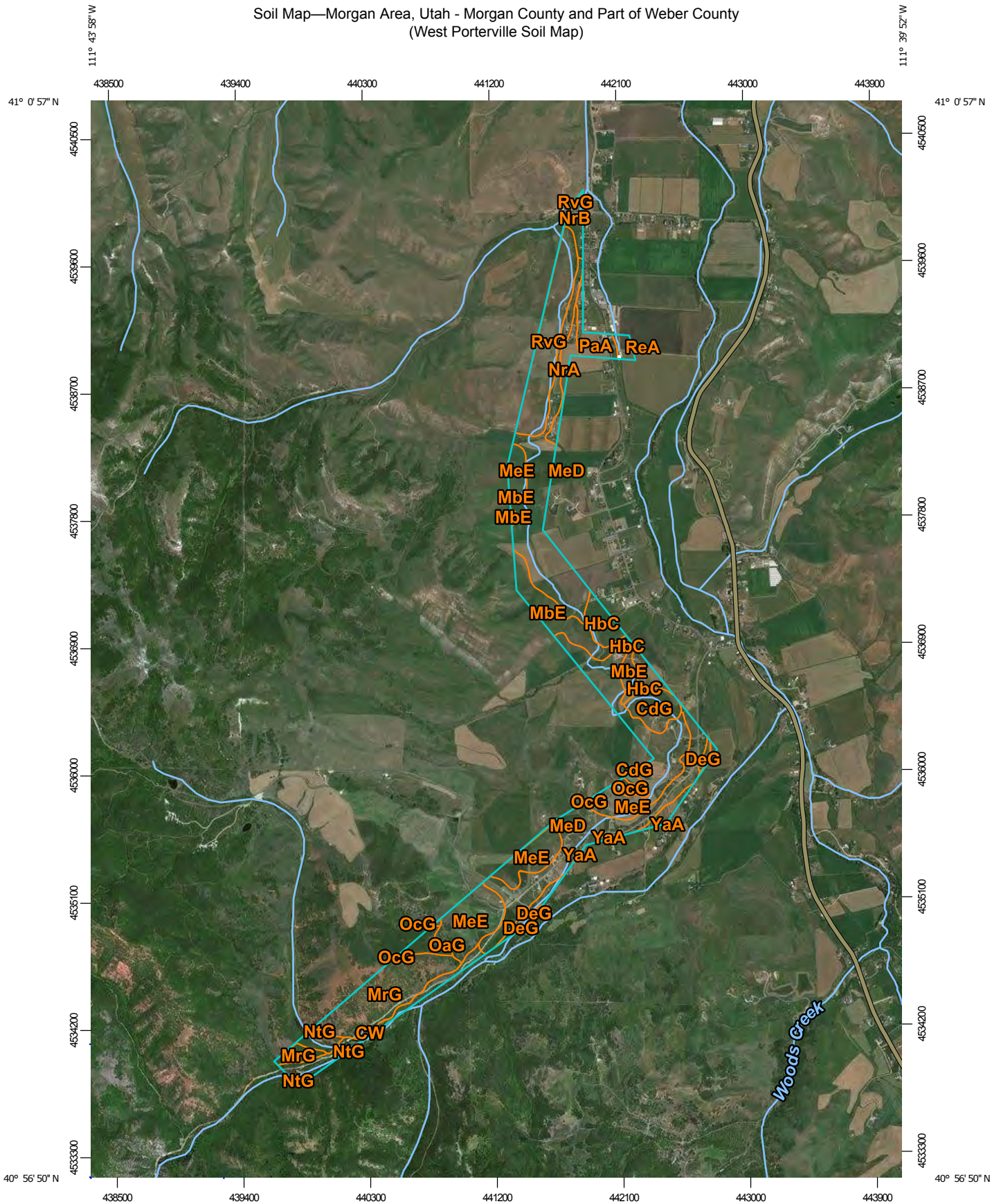
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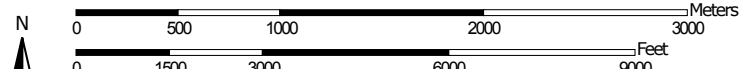
Chapter 9 Appendices

Appendix A. Soil Survey

Soil Map—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville Soil Map)



Map Scale: 1:37,100 if printed on A portrait (8.5" x 11") sheet.



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



Natural Resources
Conservation Service


Web Soil Survey
National Cooperative Soil Survey

12/7/2017
Page 1 of 3

Soil Map—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville 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: Morgan Area, Utah - Morgan County and Part of Weber County
Survey Area Data: Version 10, Sep 7, 2017

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

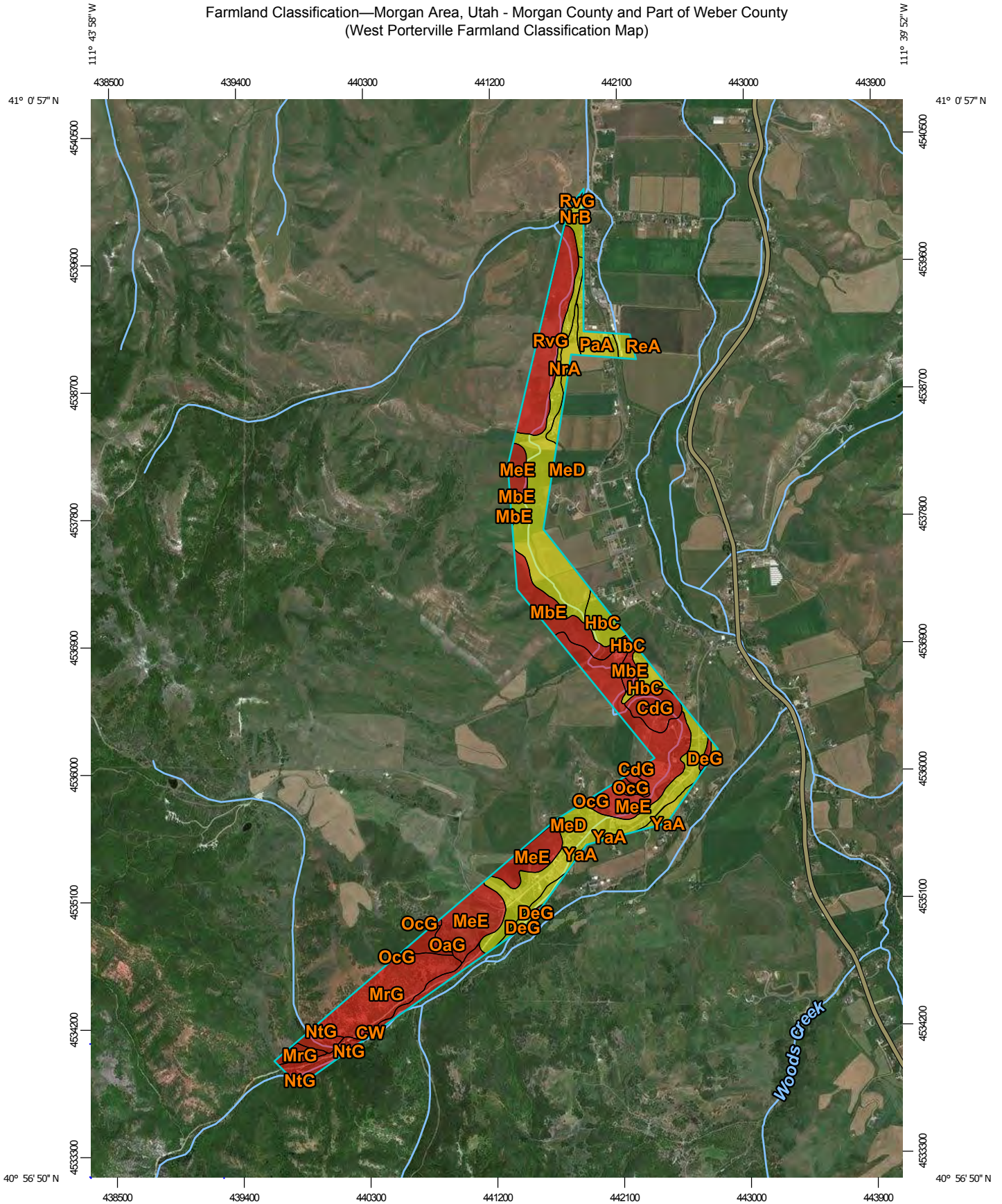
Date(s) aerial images were photographed: Oct 22, 2013—Nov 13, 2016

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.

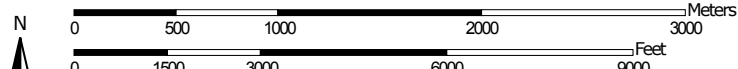
Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|---|--------------|----------------|
| CdG | Causey silt loam, 30 to 60 percent slopes | 22.3 | 3.4% |
| CW | Cumulic Haploborolls, wet | 24.6 | 3.7% |
| DeG | Durfee stony loam, 30 to 70 percent slopes | 2.8 | 0.4% |
| EVG | Etchen-Henhoit association, very steep | 0.2 | 0.0% |
| HbC | Hawkins silty clay, 3 to 6 percent slopes | 26.4 | 4.0% |
| MbC | Manila loam, 6 to 10 percent slopes | 0.0 | 0.0% |
| MbE | Manila loam, 25 to 40 percent slopes | 41.7 | 6.3% |
| MeD | Mondey clay loam, 8 to 15 percent slopes | 179.4 | 27.1% |
| MeE | Mondey clay loam, 15 to 30 percent slopes | 151.7 | 22.9% |
| MrG | Morgala-Rock outcrop complex, 30 to 60 percent slopes | 73.0 | 11.0% |
| NrA | Nebeker clay loam, 0 to 3 percent slopes | 11.9 | 1.8% |
| NrB | Nebeker clay loam, 3 to 6 percent slopes | 7.9 | 1.2% |
| NtG | Norcan loam, 30 to 60 percent slopes | 8.6 | 1.3% |
| OaG | Ostler loam, 20 to 50 percent slopes | 9.1 | 1.4% |
| OcG | Ostler-Causey complex, 20 to 60 percent slopes | 6.4 | 1.0% |
| PaA | Parleys loam, high rainfall, 0 to 3 percent slopes | 14.8 | 2.2% |
| ReA | Redola loam, 0 to 2 percent slopes | 5.0 | 0.8% |
| RvG | Richville gravelly loam, 30 to 60 percent slopes | 61.0 | 9.2% |
| YaA | Yeates Hollow loam, 2 to 5 percent slopes | 16.0 | 2.4% |
| Totals for Area of Interest | | 663.0 | 100.0% |

Farmland Classification—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville Farmland Classification Map)



Map Scale: 1:37,100 if printed on A portrait (8.5" x 11") sheet.



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



Natural Resources
Conservation Service


Web Soil Survey
National Cooperative Soil Survey

12/7/2017
Page 1 of 5

Farmland Classification—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville Farmland Classification Map)









MAP LEGEND








Area of Interest (AOI)

 Area of Interest (AOI)




Soils








Soil Rating Polygons






-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available







Soil Rating Lines










-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained

-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available

Soil Rating Points

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if irrigated and drained
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-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available

Water Features


Farmland Classification—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville Farmland Classification Map)

MAP INFORMATION

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

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

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)

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Soil Survey Area: Morgan Area, Utah - Morgan County and Part of Weber County

Survey Area Data: Version 10, Sep 7, 2017

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

Date(s) aerial images were photographed: Oct 22, 2013—Nov 13, 2016

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

Farmland Classification

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|---|-----------------------------|--------------|----------------|
| CdG | Causey silt loam, 30 to 60 percent slopes | Not prime farmland | 22.3 | 3.4% |
| CW | Cumulic Haploborolls, wet | Not prime farmland | 24.6 | 3.7% |
| DeG | Durfee stony loam, 30 to 70 percent slopes | Not prime farmland | 2.8 | 0.4% |
| EVG | Etchen-Henhoit association, very steep | Not prime farmland | 0.2 | 0.0% |
| HbC | Hawkins silty clay, 3 to 6 percent slopes | Prime farmland if irrigated | 26.4 | 4.0% |
| MbC | Manila loam, 6 to 10 percent slopes | Prime farmland if irrigated | 0.0 | 0.0% |
| MbE | Manila loam, 25 to 40 percent slopes | Not prime farmland | 41.7 | 6.3% |
| MeD | Mondey clay loam, 8 to 15 percent slopes | Prime farmland if irrigated | 179.4 | 27.1% |
| MeE | Mondey clay loam, 15 to 30 percent slopes | Not prime farmland | 151.7 | 22.9% |
| MrG | Morgala-Rock outcrop complex, 30 to 60 percent slopes | Not prime farmland | 73.0 | 11.0% |
| NrA | Nebeker clay loam, 0 to 3 percent slopes | Prime farmland if irrigated | 11.9 | 1.8% |
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| YaA | Yeates Hollow loam, 2 to 5 percent slopes | Prime farmland if irrigated | 16.0 | 2.4% |
| Totals for Area of Interest | | | 663.0 | 100.0% |

Description

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

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Appendix B. Cultural Resources



United States Department of the Interior

BUREAU OF RECLAMATION
Upper Colorado Region
Provo Area Office
302 East 1860 South
Provo, UT 84606-7317

IN REPLY REFER TO:

PRO-635
ENV-3.00/2.1.1.04

MAY 24 2018

VIA ELECTRONIC MAIL ONLY

Christopher Merritt, Ph.D.
Deputy State Historic Preservation Officer
and Historic Preservation Coordinator
Utah State Historic Preservation Office
300 Rio Grande Street
Salt Lake City, UT 84101

Subject: Cultural Resources Inventory of the West Porterville Irrigation Piping Project, Morgan County, Utah; State Historic Preservation Office Project No. U-17-JA-1010p; Bureau of Reclamation Project No. PRO-EA-18-001 – WaterSMART Grant

Dear Dr. Merritt:

In compliance with 36 CFR 800, Section 106 of the National Historic Preservation Act of 1966, and all other laws, regulations, and directives that are pertinent to this Federal undertaking, the Provo Area Office is consulting with you regarding the subject project near Porterville, Morgan County, Utah.

The Bureau of Reclamation proposes to fund a piping project via the WaterSMART grant program. The West Porterville Irrigation Company proposes to replace the existing pipeline carrying irrigation water from Hardscrabble Creek through Porterville and Richville with a new pipeline. The existing pipeline would be abandoned and approximately 25,075 feet (about 4.75 miles) of new high-density polyethylene pipeline would be installed, primarily within the existing West Porterville Ditch which would be filled in afterwards. Pipe sizes would range from 8 to 18-inches in diameter. The project would also include a 3,000 cubic yard expansion of the current reservoir pond at the southernmost end of the project. Lastly, the project would include installation of a 15-kilowatt micro-hydro pressure reduction valve station, which would generate 55,080 kilowatt hours of energy per year to offset energy needs for the irrigation system.

The area of potential effects (APE) for the proposed piping project was defined to encompass all areas of potential physical ground disturbance with a 50 feet buffer. This includes the proposed 4.75 mile pipeline alignment, three staging areas, and the proposed reservoir expansion. The APE is located in secs. 11, 14, 23, 26, 27, and 34, T. 3 N., R. 2 E., of the Salt Lake Meridian and Baseline. The APE is depicted on the U.S. Geological Survey Morgan and Porterville, Utah 7.5 minute topographic quadrangles. Lands on which the undertaking would occur are owned by private parties.

ArchaeoLogic, LLC (ArchaeoLogic) conducted a record search for reported projects and previously recorded cultural sites via Preservation Pro on October 18, 2017. There were two previous cultural resource inventories, two previously recorded cultural sites, and three historic buildings identified within a half mile of the proposed project area.

The Class III inventory occurred on October 23-24, 2017. Mr. James Beers and Mr. Mark Stuart surveyed the APE for cultural resources and identified five cultural resources. These include the eligible Hardscrabble Canyon Road (42MO41), an ineligible chicken coop (42MO79), the eligible West Porterville Ditch (42MO80), an ineligible historic debris site (42MO81), and an ineligible hydroelectric plant (42MO82).

Reclamation and ArchaeoLogic recommend that both the Hardscrabble Canyon Road (Site 42MO41) and the West Porterville Ditch (Site 42MO80) possess those characteristics that render them eligible for inclusion on the National Register of Historic Places (NRHP). The temporary use of the road will have no adverse effect on it. However, piping of the open ditch will constitute an adverse effect to the historic property. The other cultural resources identified are recommended as not eligible for inclusion on the NRHP. As such, the project would have no effect on them.

Based on the Class I and III inventory data and according to 36 CFR 800.4(d)(2), Reclamation has determined a finding of Adverse Effect to Historic Properties by the proposed undertaking. As such, Reclamation is prepared to enter into a Memorandum of Agreement (MOA) with interested parties to mitigate the damage to the ditch's integrity. The Class III inventory and the enclosed report constitute Reclamation's reasonable and good faith effort to identify and evaluate cultural resources located in the project's APE.

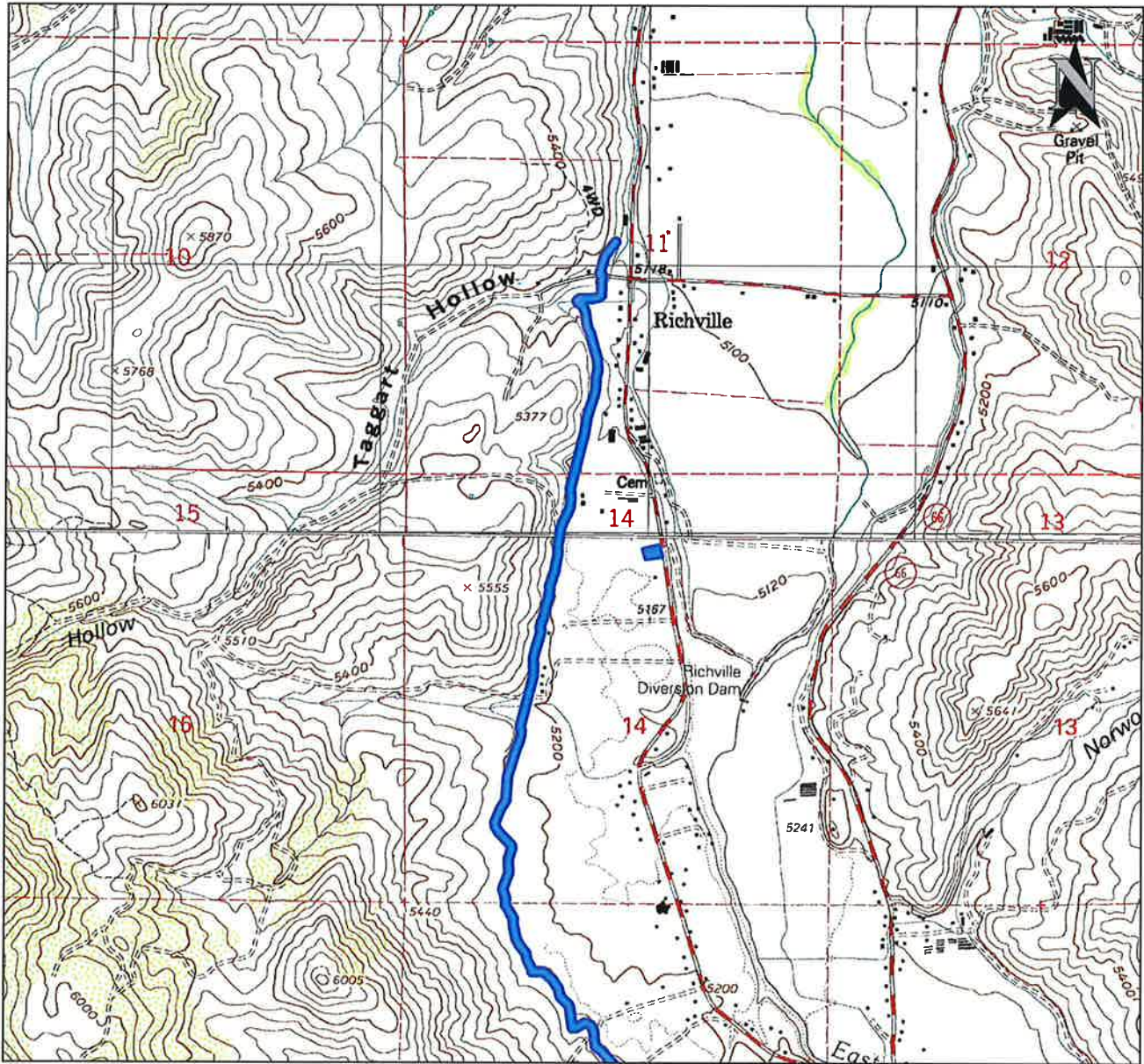
Thank you for your consideration of this proposed undertaking. We understand no comment from your office within 30 days will constitute concurrence with our determination of Adverse Effect to Historic Properties. If you have any questions, please contact Dr. Zachary Nelson at 801-379-1164 or by e-mail at znelson@usbr.gov.

Sincerely,



Wayne G. Pullan
Area Manager

Enclosures - Class III Report and Site Forms



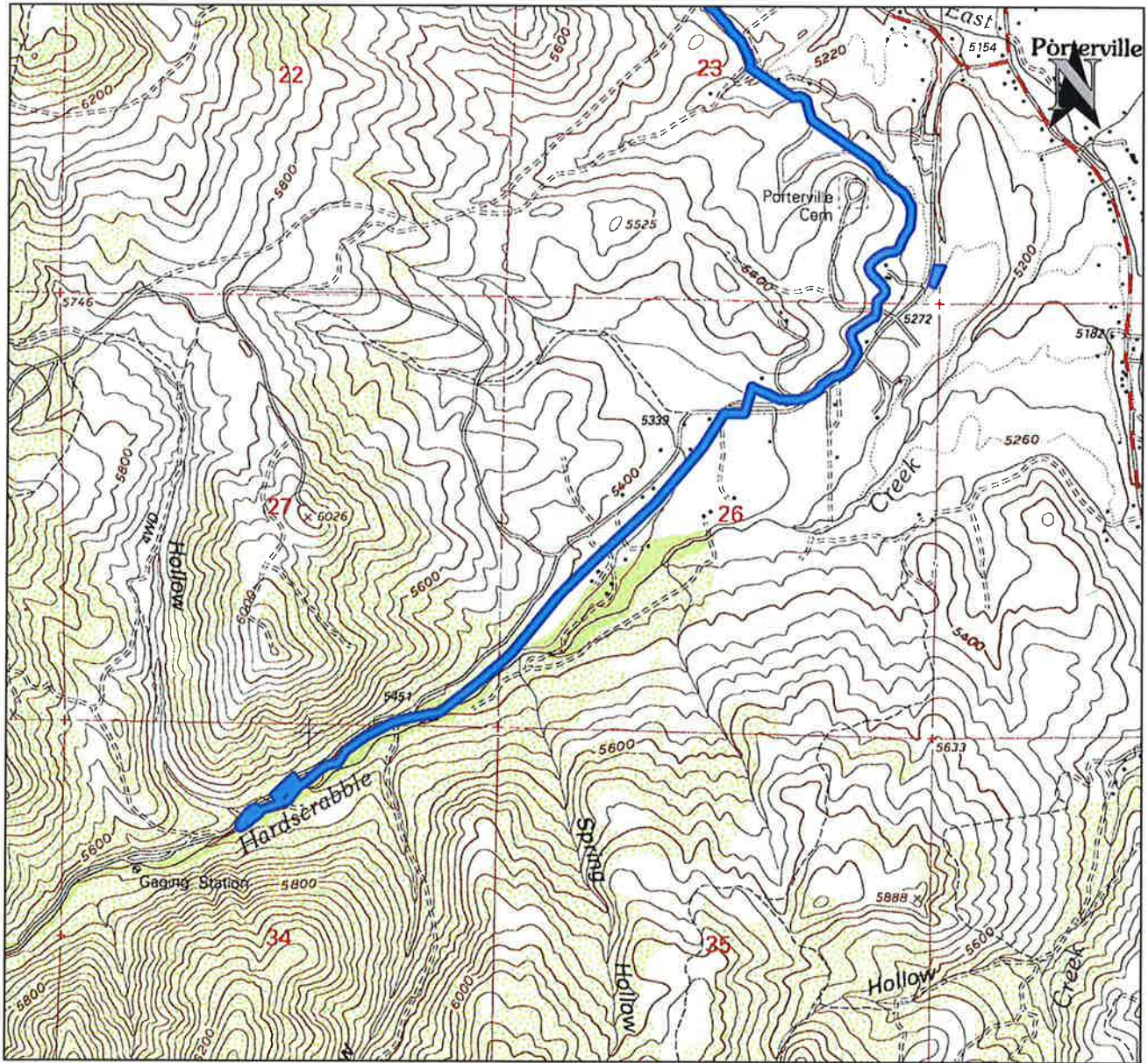
Legend

 Project Location

0 2640 5280 ft

Morgan, Utah (1991) and Porterville, Utah (1998) USGS
 Topographic Quadrangles
 Source: Utah AGRC
 Scale: 1:24,000
 Datum: NAD 83

Figure 1. Project Location Map - North



Legend

 Project Location

0 2640 5280 ft



Porterville, Utah (1998) USGS Topographic Quadrangle
 Source: Utah AGRC
 Scale: 1:24,000
 Datum: NAD 83

Figure 2. Project Location Map - South



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Jill Remington Love
Executive Director
Department of
Heritage & Arts



Brad Westwood
Director

May 29, 2018

Wayne Pullan
Area Manager
Bureau of Reclamation
302 East 1860 South
Provo, Utah 84606-7317

RE: EA-18-001 West Porterville Irrigation

For future correspondence, please reference Case No. 18-1154

Dear Wayne,

The Utah State Historic Preservation Office received your request for our comment on the above-referenced undertaking on May 25, 2018.

We concur with your determinations of eligibility and finding of "Adverse Effect" for this undertaking. We look forward to working with you on a Memorandum of Agreement to resolve the adverse effects.

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 801-245-7263 or by email at cmerritt@utah.gov.

Sincerely,

Christopher W. Merritt, Ph.D.
Deputy State Historic Preservation Officer

**MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF RECLAMATION,
THE UTAH STATE HISTORIC PRESERVATION OFFICE,
AND
THE WEST PORTERVILLE IRRIGATION COMPANY
REGARDING
THE WEST PORTERVILLE IRRIGATION PIPING PROJECT,
MORGAN COUNTY, UTAH**

WHEREAS, the Bureau of Reclamation proposes to provide Federal monies to replace the existing pipeline carrying irrigation water from Hardscrabble Creek through Porterville and Richville with a new pipeline (Undertaking) under the WaterSMART grant; and

WHEREAS, the West Porterville Irrigation Company (WPIC) will be a partner in this Undertaking which will occur in secs. 11, 14, 23, 26, 27, and 34, T. 3 N., R. 2 E., of the Salt Lake Meridian and Baseline which Undertaking can be located on the U.S. Geological Survey (GS) 7.5' Morgan and Porterville, Utah, topographic quadrangles; and

WHEREAS, Reclamation, in consultation with the Utah State Historic Preservation Office (SHPO), has established the Undertaking's area of potential effects (APE), as defined in 36 CFR 800.16(d), to include all portions of the new pipe network. It also encompasses new or improved access roads and all anticipated staging areas; and

WHEREAS, the West Porterville Ditch (Site 42MO80) is a historic property located within the APE, and is considered eligible for inclusion into the National Register of Historic Places (NRHP) under Criterion A, and the SHPO has concurred with this determination; and

WHEREAS, Reclamation has determined, in consultation with the SHPO, that the Undertaking will have an adverse effect on this site, as defined in 36 CFR 800.5(a)(1); and

WHEREAS, Reclamation notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect associated with the Undertaking in accordance with 36 CFR 800.6(a)(1)(i), and the ACHP has elected not to participate in the consultation to resolve the adverse effects; and

WHEREAS, the regulations at 36 CFR Part 800.6(c)(1-3) recognizes three types of signatories to this agreement: **Signatories**, **Invited Signatories**, and **Concurring Parties**, which are referred to collectively as **the Parties**. Signatories and Invited Signatories include any party who assumes responsibilities under this agreement. Concurring Parties have a demonstrated interest in the historic properties but do not assume responsibilities under the agreement. Concurring Parties may participate in development of the document and may concur with this agreement. The refusal of any Invited Signatory or Concurring Party to sign does not invalidate the MOA. Concurring Parties cannot terminate this agreement; and

WHEREAS, in accordance with 36 CFR 800.6(b)(1)(i), Reclamation invited the Northwestern Band of Shoshoni Nation; Shoshone-Bannock Tribes of the Fort Hall Reservation; and the Shoshone Tribe of the Wind River Reservation, Wyoming, to participate in the consultation to resolve the adverse effects associated with the Undertaking, and received no response; and

WHEREAS, pursuant to 36 CFR 800.6(c)(2) Reclamation has invited the Morgan County Historical Society, Morgan County Certified Local Government, Morgan County Governing Council, National Society of the Sons of Utah Pioneers, and Daughters of Utah Pioneers to be concurring signatories to this MOA, and none have responded; and

WHEREAS, pursuant to 36 CFR 800.6(c)(2) Reclamation has invited WPIC to be an invited signatory to this MOA; and

WHEREAS, in accordance with 36 CFR 800.6(b)(1)(iv), Reclamation shall submit this MOA, along with the documentation specified in 36 CFR 800.11(f), to the ACHP prior to approving the Undertaking in order to meet the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR 800.6(b)(1); and

NOW, THEREFORE, Reclamation, WPIC, and the SHPO agree that upon Reclamation's decision to proceed with the Undertaking, Reclamation shall ensure that the following stipulations are implemented in order to take into account the effects of the Undertaking on historic properties, and that these stipulations shall govern the Undertaking and all of its parts until this MOA expires or is terminated.

I. STIPULATIONS

Reclamation shall ensure that WPIC contracts a person who meets the professional qualifications standards as set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation to complete the following tasks:

Complete an updated Utah Archaeology Site Form (UASF) for the entirety of the West Porterville Ditch (Site 42MO80). The UASF will include:

1. A detailed description of the canal's history as well as all extant features.
2. A Geographic Information System map showing the canal system and the location of each feature.
3. Archival quality photos of the canal and its associated features. These photographs will meet all current photographic standards of the Utah Division of State History.
4. Scanned historic documents relating to the WPIC and its operations.
5. Attachments including historic photographs, design drawings, etc. associated with the canal.

6. Reevaluation of the canal's eligibility to the NRHP after completion of project, submitted to SHPO with formal determination.

In addition, Reclamation and WPIC shall:

7. Complete a history of the ditches and their role in the history of Morgan County for dissemination to local libraries and placement on a public website.
8. Conduct interviews of individuals with local knowledge of the ditches to be included in the history.

II. DURATION

This MOA will be null and void if all of its terms are not carried out within 6 years from the date of its execution. Prior to such time, Reclamation may consult with other signatories to reconsider the terms of the agreement and amend in accordance with Stipulation IV, below.

III. DISPUTE RESOLUTION

Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, Reclamation shall consult with the objecting party(ies) to resolve the objection. If Reclamation determines, within 30 days, that such objection(s) cannot be resolved, Reclamation will:

1. Forward all documentation relevant to the dispute, including Reclamation's proposed resolution, to the ACHP in accordance with 36 CFR 800.2(b)(2). Upon receipt of adequate documentation, the ACHP shall review and advise Reclamation on the resolution of the objection within 30 days. Prior to reaching a final decision on the dispute, Reclamation shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and signatories, and provide them with a copy of this written response. Reclamation will then proceed according to its final decision.
2. If the ACHP does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, Reclamation may render a decision regarding the dispute. Prior to reaching a final decision on the dispute, Reclamation shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and signatories, and provide them with a copy of this written response.
3. Reclamation's responsibilities to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

IV. AMENDMENTS

If any signatory to this MOA, including the WPIC as an invited signatory, determines that its terms will not or cannot be carried out or that an amendment to its terms must be made, that party shall immediately consult with the other signatories to develop an amendment to this MOA pursuant to 36 CFR 800.6(c)(7). The amendment will be effective on the date a copy signed by all of the original signatories is filed with the ACHP.

V. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation IV, above. If within 30 days signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement upon written notification to the other signatories.

Within 30 days following termination, Reclamation shall notify the signatories if it will initiate consultation to execute an MOA with the signatories under 36 CFR 800.6(c)(1) or request the comments of the ACHP under 36 CFR 800.7(a) and proceed accordingly.

Execution of this MOA by Reclamation, WPIC, and the SHPO, the submission of documentation and filing of this MOA with the ACHP pursuant to 36 CFR 800.6(b)(1)(iv) prior to Reclamation's approval of this undertaking, and the implementation of its terms show that Reclamation has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORIES:

Bureau of Reclamation, Provo Area Office

Kurt Kofford Date *8/10/18*
Wayne G. Pullan
Area Manager **ACTING FOR**

Utah State Historic Preservation Office



Christopher Merritt
Deputy SHPO

Date 8/17/18

INVITED SIGNATORY:

West Porterville Irrigation Company



Kipp Adams
President

Date 7/27/2018

Appendix C. Paleontological Resources



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Utah Geological Survey

RICHARD G. ALLIS
State Geologist/Division Director

March 20, 2018

Autumn Foushee
J-U-B Engineers, Inc.
2875 South Decker Lake Drive, Suite 575
Salt Lake City UT 84119

RE: Paleontological File Search and Recommendations for the West Porterville Irrigation Piping Project, Morgan County, Utah
U.C.A. 79-3-508 (Paleontological) Compliance; Request for Confirmation of Literature Search

Dear Autumn:

I have conducted a paleontological file search for the West Porterville Irrigation Piping Project in response to your request of March 19, 2018. There are no paleontological localities recorded in our files for this project area. Quaternary, Tertiary 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





GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

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

Sincerely,

Martha Hayden
Paleontological Assistant



Appendix D. Water Resources

Water Resources Assessment

West Porterville Canal Piping Project

July 2018



Prepared for:

West Porterville Irrigation Company
745 W 2225 South
P.O. Box 572
Morgan, UT 84050

Prepared by:

Autumn Foushee, Ecologist
J-U-B Engineers, Inc.
2875 South Decker Lake Drive, Suite 575
Salt Lake City, UT 84119

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| Project Location | 3 |
| Project Description | 3 |
| Methods | 3 |
| Environmental Setting | 4 |
| Results | 5 |
| Conclusion | 6 |
| Attachments | 7 |

Introduction

On behalf of the West Porterville Irrigation Company (WPIC), J-U-B Engineers Inc. has prepared a Water Resources Assessment (WRA) for the proposed canal piping project in Porterville, Utah. The WRA was conducted to identify the presence and extent of any potential Waters of the U.S., including wetlands, within the West Porterville Irrigation System proposed project action area. This report presents the results of the field investigation conducted on October 13, 2017 by Vince Barthels, Senior Biologist, and Autumn Foushee, Ecologist with J-U-B Engineers, Inc.

Project Location

The West Porterville Irrigation System is located in Porterville, Utah within Morgan County. The proposed actions would be contained within the Sections 11, 14, 23, 26, 27 and 34 of Township 3 North Range 2 East, Salt Lake Base and Meridian. The project action area contains approximately 28 acres. See attached Project Vicinity and Project Location maps.

Project Description

The WPIC is responsible for delivering water used to irrigate agricultural fields in Morgan County, Utah. The proposed West Porterville Piping Alignment Project would install 25,075 linear feet (approximately 4.75 miles) of new pipeline (8 to 18-inch high-density polyethylene [HDPE] pipe) and a 15-kilowatt (kW) Micro Hydro/Pressure Reduction Valve (PRV1) station that would produce 55,080-kilowatt hours (kWh) of energy per year. The new pipeline would replace leaking Transite pipe with a new pipeline. The new pipeline would be placed in the abandoned WPIC open. The old canal used to convey irrigation waters but was abandoned when the Transite pipeline was constructed approximately 40 years ago. In general, the proposed project would follow the existing (abandoned) open canal alignment (see attached West Porterville Proposed Alignment Exhibit). The new pipeline would deviate from the open canal alignment in three locations, in which the pipeline would be excavated and buried. The sections of new alignment are located in an upland landscape position outside of the abandoned canal.

The purpose of the project would be to help WPIC better manage 1,760 acre-feet of water in the irrigation system. Specifically, this project would allow WPIC to conserve approximately 540 acre-feet of water annually by reducing seepage losses from the existing leaky asbestos concrete pipeline. The project would also allow WPIC to improve the delivery system and water supply reliability, to potentially improve crop yields, and to create an alternative energy supply to help power agricultural barns and maintenance sheds along the alignment. The WPIC irrigation season is from May 1 to October 1. Construction is anticipated to begin in October 2018, and take approximately three years to complete.

Methods

The WRA was conducted in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual and the Arid West Regional Supplement* (Version 2.0) (USACE 2008). Based on aerial imagery, the NRCS Soil Survey, and NWI Wetlands Survey, any location with potential to contain Waters of the U.S. or wetlands was surveyed further. The entire survey area was assessed based on topography, presence or absence of dominant hydrophytic vegetation and surface hydrology. Where vegetation indicated potential presence of wetlands, soil pit sampling was conducted and the results documented in

accordance with the USACE *Arid West Regional Supplement*. Additional resources used for the field assessment include the following:

- Web Soil Survey (USDA/NRCS 2017a) (see attached)
- Aerial photography of the project area from the National Agricultural Imagery Program (NAIP)
- Arid West 2016 Regional Wetland Plant List (Lichvar et al 2016)
- Munsell Soil-Color Charts (Munsell Color 2009)
- National Wetland Inventory (NWI) Map (see attached)

Environmental Setting

The project area is largely undulating, open grassland situated in a predominantly, upland topographic position. The irrigation system and proposed alignment runs along the upland benches above the Hardscrabble Creek and East Canyon Creek drainages. The Proposed Action Area also includes the existing storage pond, and a proposed expansion area, at the southern end of the alignment (see attached Proposed Alignment Map). The elevation of the project area ranges from approximately 5,105 to 5,479 feet above sea level (NVGD 29).

The project area has an average maximum temperature of 61.1° F and an average minimum temperature of 30.5° F. The average annual precipitation is 19.02 inches. The growing season typically runs from early June to late September.

National Wetlands Inventory (NWI) data suggests that freshwater emergent wetlands and open water could exist within the project vicinity, primarily in adjacent fields or swales. The NWI Map also suggests potential for various wetland complexes along Hardscrabble Creek and East Canyon Creek; however, these areas are outside the Proposed Action Area.

Upland, pasture grasses and weeds dominate the vegetation assemblages throughout the Proposed Action Area. Plant species included coyote willow, red osier, rush skeletonweed, leafy spurge and perennial ryegrass among other grasses and weedy species. In one location, where the proposed alignment crosses a roadway drainage swale, Nebraska sedge and common plantain were observed.

Natural hydrology exists in only a few spots where the irrigation system intersects with a natural, ephemeral drainage or is adjacent to Hardscrabble Creek. The natural ephemeral drainage likely only exhibits water during spring runoff. No signs of saturation or hydrophytic vegetation were present at this unnamed drainage. Site conditions at the existing storage pond were indicative of a previously disturbed and actively managed, maintenance yard for the irrigation system. The site is located on a riverine bench adjacent to Hardscrabble Creek. Although vegetation was not entirely indicative of a wetland feature, a soil pit analysis was conducted at this site given its proximity to the creek. Wetland hydrology was not present within the top 24 inches of the soil profile, and hydric soil indicators were not present.

Soils within and adjacent to the existing and proposed alignment include a variety of non-hydric soils. Small patches of hydric soils are mapped directly within the waterway prisms of Hardscrabble Creek and East Canyon Creek, which are outside the Proposed Action Area. The NRCS Web Soil Survey identified three hydric soils with potential to occur within the Proposed Action Area (see attached Soil Survey Map). Table 1 summarizes the hydric soils identified. These soils were not found within the Proposed Action Area.

Table 1. Hydric Soils with Potential to Occur within Proposed Alignment

| Soil Map Unit | Map Unit Name | Hydric Rating |
|---------------|---|---------------|
| CW | Cumulic Haploborolls, wet | 95 |
| EaA | Eastcan loam, 0 to 3 percent slopes | 3 |
| HbC | Hawkins silty clay, 3 to 6 percent slopes | 3 |

Results

The dominant vegetation assemblages within the Proposed Action Area include upland grasses, sagebrush, scrub oak and weedy species. Along roadway swales adjacent to, but not within the proposed alignment, a few obligate wet species were identified. Table 2 summarizes the dominant vegetation identified within or adjacent to the Proposed Project Area.

Table 2. Species Identified in Site Inspection

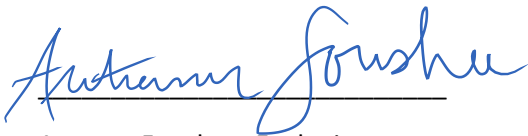
| Common Name | Scientific Name | Indicator Status |
|----------------------------|-----------------------------|------------------|
| Narrowleaf cottonwood | <i>Populus angustifolia</i> | FACW |
| Narrowleaf (coyote) willow | <i>Salix exigua</i> | FACW |
| Red osier | <i>Cornus alba</i> | FACW |
| River hawthorn | <i>Crataegus douglasii</i> | FAC |
| Wood's rose | <i>Rosa woodsii</i> | FACU |
| Canada thistle | <i>Cirsium arvense</i> | FACU |
| Scrub oak | <i>Quercus gambelii</i> | UPL |
| Chicory | <i>Cichorium intybus</i> | FACU |
| Curly dock | <i>Rumex crispus</i> | FAC |
| Common plantain | <i>Plantago major</i> | FAC |
| Rush skeletonweed | <i>Chondrilla juncea</i> | UPL |
| Perennial ryegrass | <i>Lolium perenne</i> | FAC |
| Leafy spurge | <i>Euphorbia esula</i> | UPL |
| Nebraska sedge | <i>Carex nebrascensis</i> | OBL |

Wetland hydrology, wetland vegetation dominance and hydric soils were not present within the Proposed Action Area. Therefore, the water resources assessment identified no wetland areas within the Proposed Action Area. The Proposed Action Area does fall within the riparian area of Hardscrabble Creek at the southwest end of the alignment, which would likely require a Stream Alteration Permit from the State of Utah Department of Natural Resources Water Rights Division. Hardscrabble Creek is adjacent to the Proposed Action Area; however, no work would be completed directly in the stream.

Conclusion

Appropriate hydrology, hydric vegetation dominance and hydric soil indicators were not present. Therefore no wetlands were identified within the Proposed Project Action Area. It should be noted that final authority for jurisdictional and wetland determinations rests with the appropriate agencies. If you have any questions regarding this report, please contact me. I may be reached at afoushee@jub.com, or on my office phone at 801-886-9052.

Respectfully submitted by:

A handwritten signature in blue ink that reads "Autumn Foushee". The signature is written in a cursive style and is positioned above a horizontal line.

Autumn Foushee, Ecologist
J-U-B Engineers, Inc.

Date: July 3, 2018

Attachments

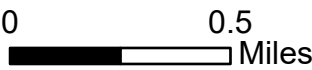
1. Project Vicinity Map
2. Proposed Project Location & Alignment Map
3. Photo Inventory
4. NRCS Soils Map
5. NWI Map



**West Porterville EA
Porterville, UT
Vicinity Map**

- Existing Alignment
- Staging Area
- - - Proposed Alignment
- Existing Pond

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of J-U-B Engineers, Inc., and is not to be used, in whole or part, for any other project without the express written authorization of J-U-B Engineers, Inc.




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 J-U-B ENGINEERS, INC.
 THE LANGDON GROUP
 GATEWAY MAPPING INC.
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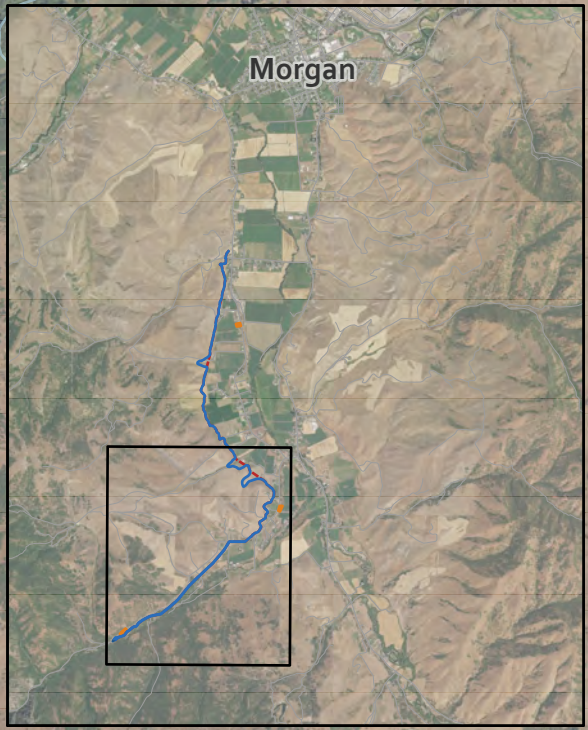
West Porterville EA
Porterville, UT
Project Location Map
(North)

- Existing Alignment
- - - Proposed Alignment
- Staging Area

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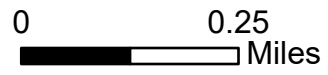
OTHER J-U-B COMPANIES



West Porterville EA
Porterville, UT
Project Location Map
(South)

- Existing Alignment
- Staging Area
- Proposed Alignment
- Existing Pond

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of J-U-B Engineers, Inc., and is not to be used, in whole or part, for any other project without the express written authorization of J-U-B Engineers, Inc.



West Porterville Irrigation Company Piping Project - Photo Inventory



Staging area along Morgan Valley Drive.

1



Second staging area along Morgan Valley Drive

2



Staging area near retention pond.

3



Central section of the project alignment.

4

West Porterville Irrigation Company Piping Project - Photo Inventory



Central sections of existing project alignment.

5



Central sections of existing project alignment.

6



Central sections of project alignment.

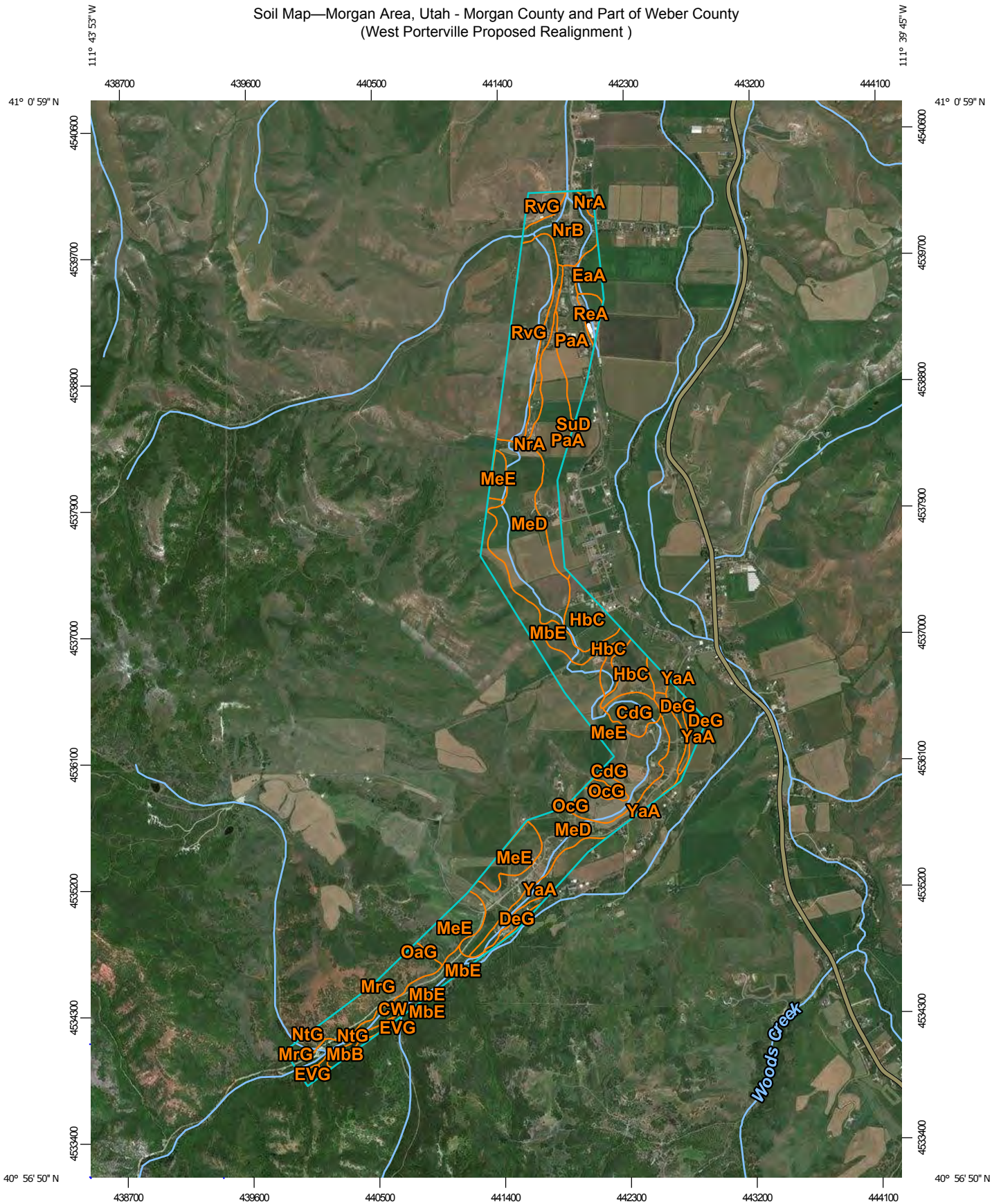
7



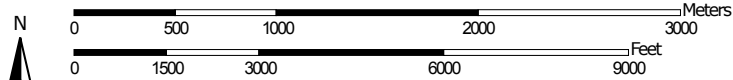
Central sections of project alignment

8

Soil Map—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville Proposed Realignment)



Map Scale: 1:37,400 if printed on A portrait (8.5" x 11") sheet.



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



Natural Resources
Conservation Service


Web Soil Survey
National Cooperative Soil Survey

10/12/2017
Page 1 of 3


Soil Map—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville Proposed Realignment)


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: Morgan Area, Utah - Morgan County and Part of Weber County
Survey Area Data: Version 9, Sep 9, 2016

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

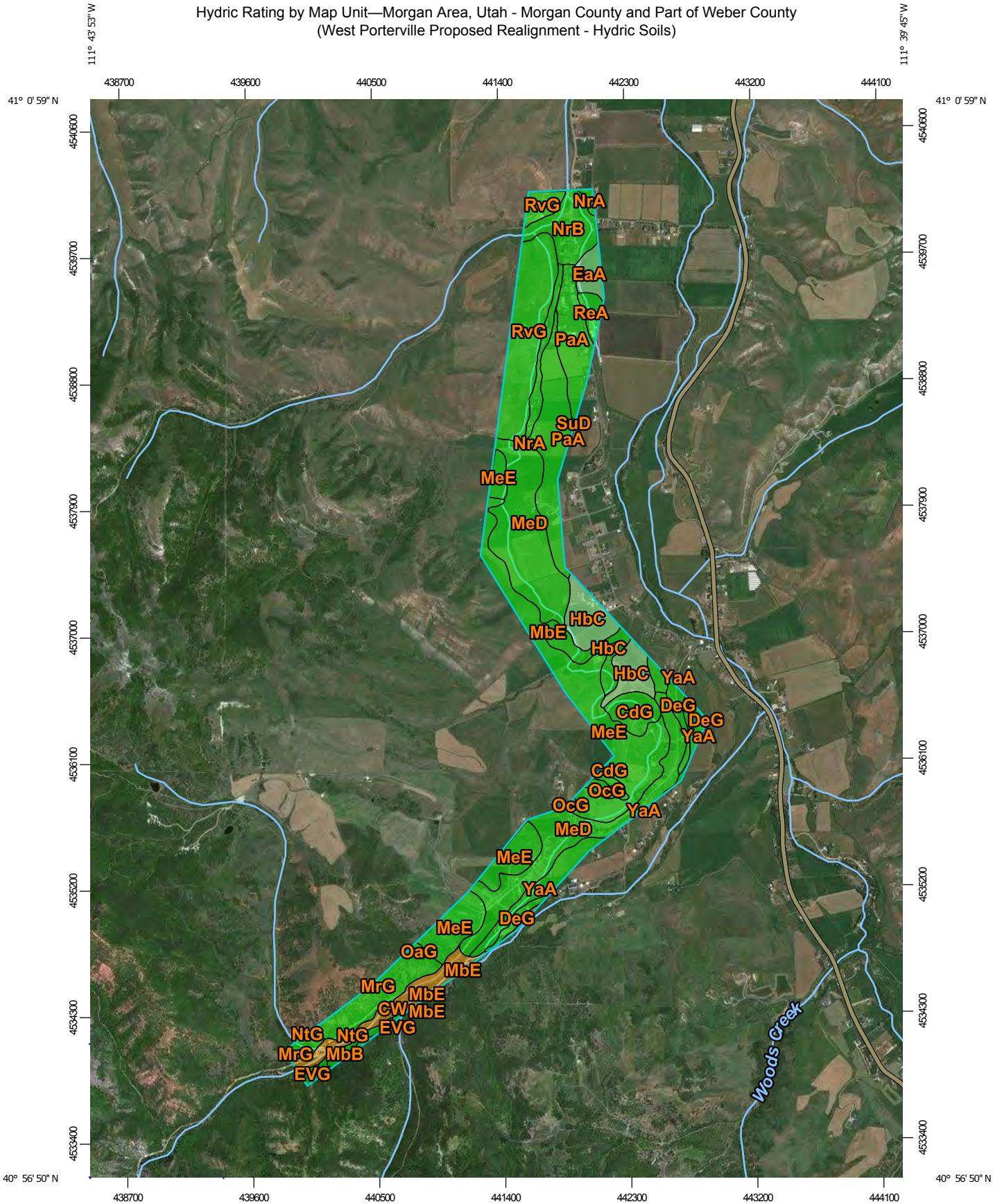
Date(s) aerial images were photographed: Oct 22, 2013—Nov 13, 2016

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.

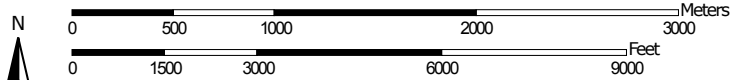
Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|---|--------------|----------------|
| CdG | Causey silt loam, 30 to 60 percent slopes | 23.6 | 2.5% |
| CW | Cumulic Haploborolls, wet | 38.3 | 4.1% |
| DeG | Durfee stony loam, 30 to 70 percent slopes | 16.1 | 1.7% |
| EaA | Eastcan loam, 0 to 3 percent slopes | 13.5 | 1.4% |
| EVG | Etchen-Henhoit association, very steep | 3.9 | 0.4% |
| HbC | Hawkins silty clay, 3 to 6 percent slopes | 52.4 | 5.6% |
| MbB | Manila loam, 3 to 6 percent slopes | 3.2 | 0.3% |
| MbE | Manila loam, 25 to 40 percent slopes | 50.2 | 5.4% |
| MeD | Mondey clay loam, 8 to 15 percent slopes | 204.4 | 21.9% |
| MeE | Mondey clay loam, 15 to 30 percent slopes | 163.0 | 17.5% |
| MrG | Morgala-Rock outcrop complex, 30 to 60 percent slopes | 45.8 | 4.9% |
| NrA | Nebeker clay loam, 0 to 3 percent slopes | 69.1 | 7.4% |
| NrB | Nebeker clay loam, 3 to 6 percent slopes | 37.4 | 4.0% |
| NtG | Norcan loam, 30 to 60 percent slopes | 11.9 | 1.3% |
| OaG | Ostler loam, 20 to 50 percent slopes | 3.0 | 0.3% |
| OcG | Ostler-Causey complex, 20 to 60 percent slopes | 7.0 | 0.7% |
| PaA | Parleys loam, high rainfall, 0 to 3 percent slopes | 42.4 | 4.5% |
| ReA | Redola loam, 0 to 2 percent slopes | 9.3 | 1.0% |
| RvG | Richville gravelly loam, 30 to 60 percent slopes | 96.8 | 10.4% |
| SuD | Stoda loam, 10 to 25 percent slopes | 0.4 | 0.0% |
| YaA | Yeates Hollow loam, 2 to 5 percent slopes | 42.0 | 4.5% |
| Totals for Area of Interest | | 933.6 | 100.0% |

Hydric Rating by Map Unit—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville Proposed Realignment - Hydric Soils)



Map Scale: 1:37,400 if printed on A portrait (8.5" x 11") sheet.




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



Hydric Rating by Map Unit—Morgan Area, Utah - Morgan County and Part of Weber County
(West Porterville Proposed Realignment - Hydric Soils)







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)

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Survey Area Data: Version 9, Sep 9, 2016

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

Date(s) aerial images were photographed: Oct 22, 2013—Nov 13, 2016

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 |
|-----------------|---|--------|--------------|----------------|
| CdG | Causey silt loam, 30 to 60 percent slopes | 0 | 23.6 | 2.5% |
| CW | Cumulic Haploborolls, wet | 95 | 38.3 | 4.1% |
| DeG | Durfee stony loam, 30 to 70 percent slopes | 0 | 16.1 | 1.7% |
| EaA | Eastcan loam, 0 to 3 percent slopes | 3 | 13.5 | 1.4% |
| EVG | Etchen-Henhoit association, very steep | 0 | 3.9 | 0.4% |
| HbC | Hawkins silty clay, 3 to 6 percent slopes | 3 | 52.4 | 5.6% |
| MbB | Manila loam, 3 to 6 percent slopes | 0 | 3.2 | 0.3% |
| MbE | Manila loam, 25 to 40 percent slopes | 0 | 50.2 | 5.4% |
| MeD | Mondey clay loam, 8 to 15 percent slopes | 0 | 204.4 | 21.9% |
| MeE | Mondey clay loam, 15 to 30 percent slopes | 0 | 163.0 | 17.5% |
| MrG | Morgala-Rock outcrop complex, 30 to 60 percent slopes | 0 | 45.8 | 4.9% |
| NrA | Nebeker clay loam, 0 to 3 percent slopes | 0 | 69.1 | 7.4% |
| NrB | Nebeker clay loam, 3 to 6 percent slopes | 0 | 37.4 | 4.0% |
| NtG | Norcan loam, 30 to 60 percent slopes | 0 | 11.9 | 1.3% |
| OaG | Ostler loam, 20 to 50 percent slopes | 0 | 3.0 | 0.3% |
| OcG | Ostler-Causey complex, 20 to 60 percent slopes | 0 | 7.0 | 0.7% |
| PaA | Parleys loam, high rainfall, 0 to 3 percent slopes | 0 | 42.4 | 4.5% |
| ReA | Redola loam, 0 to 2 percent slopes | 0 | 9.3 | 1.0% |
| RvG | Richville gravelly loam, 30 to 60 percent slopes | 0 | 96.8 | 10.4% |

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|---|--------|--------------|----------------|
| SuD | Stoda loam, 10 to 25 percent slopes | 0 | 0.4 | 0.0% |
| YaA | Yeates Hollow loam, 2 to 5 percent slopes | 0 | 42.0 | 4.5% |
| Totals for Area of Interest | | | 933.6 | 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.

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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



October 12, 2017

Wetlands








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

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



October 12, 2017

Wetlands








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

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

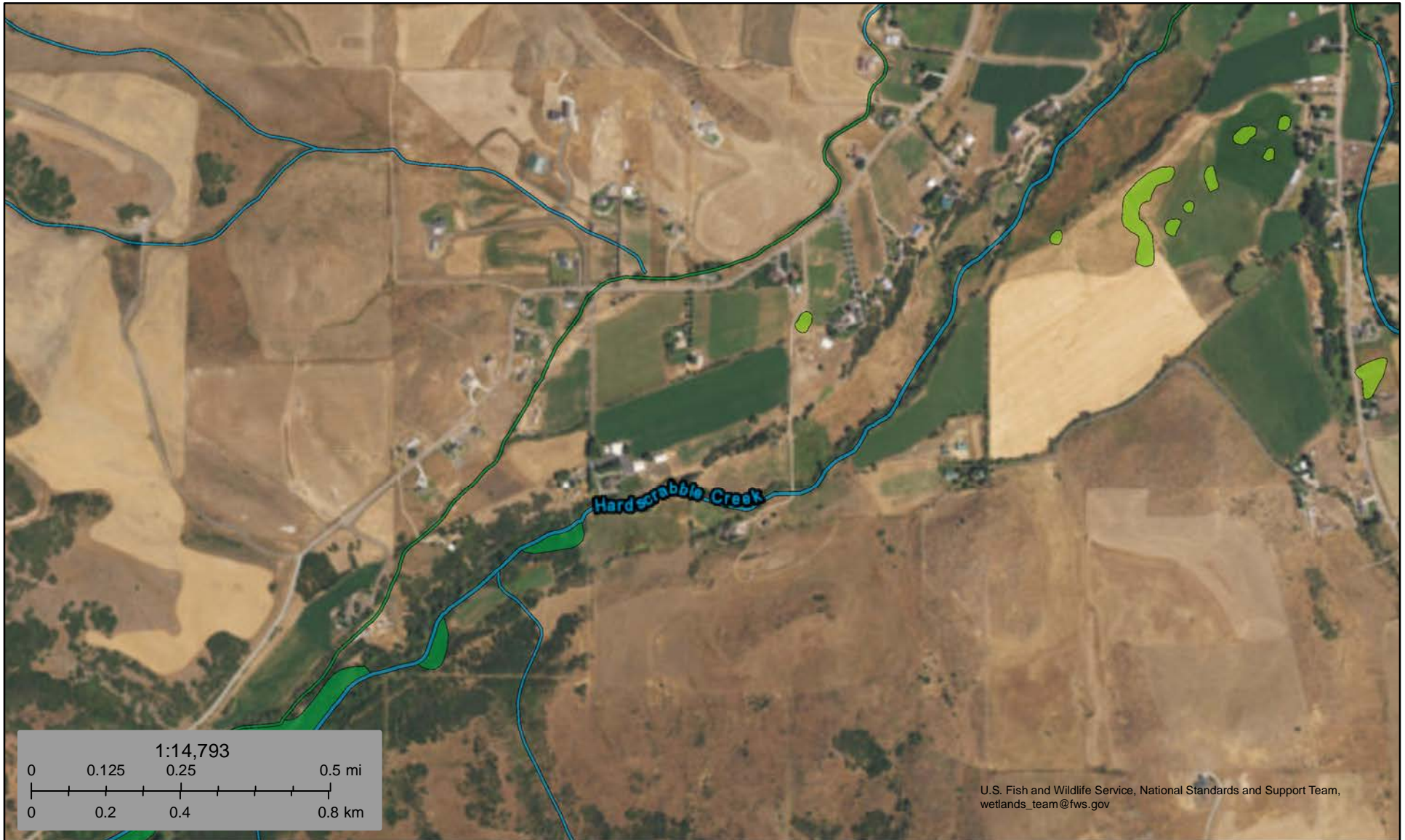


October 12, 2017

Wetlands








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

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October 12, 2017

Wetlands

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

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October 12, 2017

Wetlands

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

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

Appendix E. Biological Resources



MEMORANDUM

DATE: December 12, 2017
TO: Marti Hoge, Planner (J-U-B ENGINEERS, Inc.)
File: J-U-B Project No. 55-17-102
FROM: Autumn Foushee, Ecologist (J-U-B ENGINEERS, Inc.)
SUBJECT: Biological Assessment for the West Porterville Proposed Piping Alignment.

The following Biological Assessment (BA) has been prepared as required by Section 7(c) of the Endangered Species Act (ESA), for the West Porterville Proposed Piping Alignment Project, located in Morgan County, Utah. A site visit was conducted on October 19, 2017 by Vincent Barthels, Qualified Biologist with J-U-B ENGINEERS, INC., in order to review the existing conditions within the project action area. This letter serves as the biological analysis of the proposed project with regard to species listed as endangered, threatened, proposed, and candidate, and with regard to designated and proposed critical habitat protected under the ESA. In addition, any state sensitive species that could potentially be affected by the proposed project action were analyzed as part of this report.

Proposed Project Action

The proposed project action would be contained within Sections 11, 14, 23, 24, 26, 27 and 34, Township 3 North, Range 2 East, Morgan County, Utah (see Attachment #1, Vicinity Maps). For illustrations of typical conditions throughout the project area, please refer to the attached Photo Inventory (see Attachment #2). The elevation of the project area ranges from approximately 5,105 to 5,479 feet above sea level (NVGD 29).

The West Porterville Irrigation Company (WPIC) is responsible for delivering water used to irrigate agricultural fields in Morgan County, Utah. The proposed West Porterville Piping Alignment Project would install 25,075 linear feet (approximately 4.75 miles) of new pipeline (8 to 18-inch high-density polyethylene [HDPE] pipe) and a 15 kilowatt (kW) Micro Hydro/Pressure Reduction Valve (PRV1) station that would produce 55,080 kilowatt hours (kWh) of energy per year. In general, the proposed project would occur in WPIC old open canal alignment, but not in the existing pipeline location (see Attachment #4, West Porterville Proposed Alignment Exhibit).

The project would help WPIC better manage 1,760 acre-feet of water in the system. Specifically, this project would allow WPIC to conserve approximately 540 acre-feet of water annually, secure their water right, improve the delivery system and water supply reliability, improve crop yields, and produce needed energy. The water conserved includes operational water lost and seepage.

The WPIC irrigation season is from May 1 to October 1. Construction is anticipated to take place over a three-year period beginning in October 2018. Pipeline construction activities would occur from October 2018 to April 2019.

Construction Activities

The project action area includes the project footprint and all areas surrounding the project footprint where the proposed project action could affect the environment directly, indirectly, or through interrelated or interdependent actions. The action area is determined by the geographic extent of potential effects of the proposed project action on the environment.

Because temporary construction related noise impacts have been determined to be the farthest reaching project effects, the project action area is defined as the limits of physical disturbance (including staging areas) plus a horizontal buffer for terrestrial noise impacts. The anticipated construction equipment includes: excavators, backhoes, and dump trucks for hauling materials. The most prevalent construction noise source would come from equipment powered by internal combustion engines (usually diesel). Noise from equipment used on this project would likely range from 81 to 83 decibels (dBA) when measured from a distance of 15 meters (50 feet) (see Table 1 on page 3). To reduce the impact of construction noise, most construction activities would be confined to weekdays between 7:00 a.m. and 7:00 p.m. Mitigation of potential construction noise impacts shall incorporate low-cost, easy-to-implement measures into project plans and specifications (e.g. equipment muffler requirements and established daytime work hours).

The population density of Morgan County is 15.5 people per square mile (U.S. Census 2010), which, according to Table 7-6 in Chapter 7 of the *WSDOT Biological Assessment Preparation Handbook* (2017), equates to an ambient sound level of approximately 35 dBA. However, the project footprint is approximately 0.37 miles (1,950 feet) away from SR 66 at the closest point, which averages roughly 44.5 vehicles per day at a speed of 45 miles per hour, the resulting background traffic noise level is approximately 55.5 dBA (WSDOT 2017). Given that the project footprint is located in close proximity to numerous active farms that frequently utilize tractors and backhoes, the background noise in the project area is tied to agricultural/farming equipment rather than ambient noise or traffic noise. To define the horizontal extent of the project related to temporary construction noise effects, Table 2 (an attenuation table) has been developed (see page 3).

Given the background agricultural/farming noise level for the project area, Table 2 illustrates that temporary construction noise levels would be less than current background noise levels, even if an excavator and a backhoe were used simultaneously. Based on this information, the project action area has been defined as the project footprint. The total area that the project action area encompasses is approximately 4.75 miles.

Table 1. Noise table based on construction equipment anticipated to be used.

| | |
|--|-------------|
| | Noise (dBA) |
|--|-------------|

| Construction Equipment Used | Construction Noise | Greatest Potential Combined Construction Noise | Agricultural Farming Noise | Existing Ambient Noise |
|-----------------------------|--------------------|--|----------------------------|------------------------|
| Excavator | 81 | 83 | 84 | 35 |
| Excavator and Dump Truck | 82 | | | |
| Excavator and Backhoe | 83 | | | |

Table 2. Noise attenuation table based on greatest construction noise impact.

| Distance from Site (feet) | Construction Noise (-7.5 dBA) ¹ | Background Sound - Agricultural/Farming Noise (-4.5 dBA) ¹ | Existing Ambient Noise Level (dBA) |
|---------------------------|--|---|------------------------------------|
| 50 | 83 | 84 | 35 |

Note: (1) The project action area is characterized as having “soft site” conditions.

Best Management Practices

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

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

5. Noxious weed management, following the **Bureau of Reclamation’s standard operating** procedures for invasive weed control, shall be implemented within the project footprint.
6. The project footprint would be monitored on a regular basis by a designated Construction Site Erosion and Sediment Control Lead (CESCL). The monitoring would consist of observing the TESC structures so that sediment does not reach active drainage channels. If any structure fails, it must be replaced immediately. If sediment deposits are observed beyond the control structures following a failure, the sediment must be removed immediately.

Agency Consultation and Species of Concern

In order to identify ESA-listed species of concern associated with the proposed project actions, a species list was obtained from the United States Fish and Wildlife Service (USFWS) Information, Planning, and Consultation (IPaC) system (dated 10-12-2017). According to the IPaC report, two ESA-listed species have potential to exist within the project action area that **are listed as “Threatened”** (see Attachment #5, USFWS IPaC Listing). Both species warrant ESA consideration at this time. The species list summarized in Table 3 was derived from potential species occurrence within the defined project action area.

Table 3. Summary of ESA-listed species specified by the IPaC listing (dated 10-12-2017).

| Common Name | Scientific Name | ESA Status |
|----------------------|---|------------|
| Canada lynx | <i>Lynx canadensis</i> | Threatened |
| Yellow-billed cuckoo | <i>Coccyzus americanus occidentalis</i> | Threatened |

On October 30, 2017, the Utah Division of Wildlife Resources (UDWR) provided a response letter regarding information on ESA species, and species of special concern in the vicinity of the proposed project action area (see Attachment #6, UDWR Letter). No records specified by the UDWR relate to the above mentioned species. However, within a ½-mile radius of the project area, the UDWR has recent records of occurrence for the bald eagle and Bonneville cutthroat trout. Within a 2-mile radius of the project action area the UDWR letter listed recently documented occurrences of bobolink and bluehead sucker. All of these species are listed on the Utah Sensitive Species List, and therefore are addressed in this report. Table 4 provides a summary of the state sensitive listed species specified by the UDWR response letter.

Table 4. Utah Sensitive Species listed by the UDWR response letter (dated 10-30-2017).

| Common Name | Scientific Name | ESA Status |
|----------------------------|----------------------------------|------------|
| Bald eagle | <i>Haliaeetus leucocephalus</i> | N/A |
| Bluehead sucker | <i>Catostomus discobolus</i> | Endangered |
| Bobolink | <i>Dolichonyx oryzivorus</i> | N/A |
| Bonneville cutthroat trout | <i>Oncorhynchus clarkii Utah</i> | N/A |

Species and Habitat Descriptions and Effects Determinations

The following subsection briefly discusses the species mentioned in Table 3 and Table 4 and their habitat descriptions; then proceeds to provide an effect determination for each individual species. Species are presented in alphabetical order.

Bald eagle:

Bald eagles are a large dark raptorial bird with a white head and tail when mature. They eat mostly fish, but will eat some small mammals such as rabbits (Stokes 1996). The bald eagle constructs massive nests on cliff edges or in large trees. Eagles congregate in feeding areas in late winter and early spring. Bald eagles generally select habitat located near water. In a survey of 2,732 nests, 99% were within 200 meters (650 ft) of the water and averaged only 40 meters (130 ft) from the shoreline. Eagle perches are generally close to the water, especially those used for foraging. Nearly all birds will perch within 50 meters (165 ft) of a shoreline, because fish, waterfowl, seabirds, and other prey can be acquired there. Eagles select trees within that habitat for nesting and perching sites. The most important characteristic of the nesting tree is that it is the tallest in the forest stand. Selecting a tall tree ensures a structure that will adequately support a large nest, provide an open flight path to and from the nest, and have a **panoramic view of the surrounding terrain (Stalmaster 1987)**. **An eagle's nesting season is** between the start of February, when they initiate construction of their nests and mid-August when the young fledge the nest (Mary Terra-Berns, personal communication). The incubation period ranges between 31 and 46 days. Hatchlings can remain in the nest for 70 to 98 days (Alsop 2001).

Based on information obtained from the UDWR, there are recently documented occurrences of bald eagle within a ½-mile radius of the defined project action area (see Attachment #6, UDWR Letter). More specifically, in 2004 UDWR documented winter roosting sites within one square-mile of Sections 2, 11, 24 and 25 of Township 3 North, Range 2 East (see Attachment #7, UDWR Email Correspondence, dated 11-7-2017). There is suitable habitat within the project action area for bald eagle, however, most of the landscape within the project action area is highly disturbed agricultural fields and in the proximity of houses and roads. Following correspondence with UDWR on November 20, 2017, it was determined that the proposed project would not impact any known areas of bald eagle roosts or nest trees. According to the UDWR, the proposed project is far enough away from any potential roosting or nesting sites and is in the proximity of houses and roads (see Attachment #8, UDWR Email Correspondence, dated 11-20-2017). Based on this correspondence with the UDWR, a no effects determination is warranted for the bald eagle.

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. Their population size has been in a decline due to habitat loss, flow alterations and the introduction of non-native species (UDWR 2017).

Based on information obtained from the UDWR, there are recently documented occurrences of the bluehead sucker within a 2-mile radius of the defined project action area (see Attachment #6, UDWR Letter). The proposed project action does not require any in-water work and there is no critical habitat for this species within the project action area. In addition, the water conservation benefits of this piping project will positively affect Hardscrabble Creek by making more water available to the system. Due to the lack of in-water work and suitable habitat for this species, a no effects determination is warranted for the bluehead sucker.

Bobolink:

The bobolink has one of the longest annual migrations (approximately 12,500 miles) of any North American songbird. These birds typically arrive in Utah in early May and start their migration south around mid-August. They primarily nest and forage in wet meadows and irrigated agricultural fields. The nests are built on the ground, often near the base of large forbs or the transition into sedges (UDWR 2017). The female generally lays three to seven eggs and exclusively incubates them for eleven to thirteen days. Young fledge after approximately 10-14 days. Only one brood is produced each year. Forage includes: insects, grass seeds and grain (Alsop 2001).

Information obtained from the UDWR indicates there are recently documented occurrences of the bobolink within a 2-mile radius of the project action area (see Attachment #6, UDWR Letter). Irrigated agricultural fields do exist throughout the project action area, which could be potentially suitable habitat for the bobolink. However, pipeline construction activities would occur from October to April, which is after resident bobolink should have migrated away from the project action area. Construction would end before bobolink returns to the area. Due to construction timing, a no effects determination is warranted for the bobolink.

Bonneville cutthroat trout:

The Bonneville cutthroat trout is a subspecies of cutthroat trout native to the Bonneville Basin of Utah, Wyoming, Idaho, and Nevada. The Bonneville cutthroat trout habitat includes mountain streams and lakes to 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. The typical spawning period for Bonneville cutthroat trout occurs during the spring or early summer (USFS 2017).

Hardscrabble Creek is characterized as potentially suitable habitat for the Bonneville cutthroat trout. Based on information obtained from the UDWR, there are recently documented occurrences of the Bonneville cutthroat trout within ½-mile radius of the defined project action area (see Attachment #6, UDWR Letter).

The proposed piping project would not effect Bonneville cutthroat trout present in Hardscrabble Creek because no in-stream work would occur (the existing concrete diversion structure and screen/overflow structure would remain) and existing fish screens would remain (see Attachment #9, UDWR Email Correspondence, dated 11-28-2017).

Canada lynx:

The Canada lynx is normally found in dense forested areas with an abundance of windfalls, swamps, and brushy thickets. Lynx require heavy cover for concealment when stalking prey. In addition, lynx are most likely to persist in areas that receive deep snow, for which the lynx is highly adapted (Maas 1997). In the western U.S., lynx are generally found only above 4,000 feet in elevation (McKelvey et al. 2000).

Based on information obtained from the UDWR, there are no recently documented occurrences of the Canada lynx near the defined project action area (see Attachment #6, UDWR Letter). The highly disturbed agricultural environment and relatively small amount of heavy cover surrounding the defined project action area is unsuitable habitat for this species. Because of habitat considerations, a no effect determination is warranted for the Canada lynx.

Yellow-billed cuckoo:

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). It is a neotropical migrant, which winters in South America. Breeding often coincides with the appearance of massive numbers of cicadas, caterpillars, or other large insects (Ehrlich et al. 1992). Its incubation/nestling period is the shortest of any known bird, because it is one of the last neotropical migrants to arrive in North America and chicks have very little rearing time before embarking on their transcontinental migration. Yellow-billed cuckoos arrive in Utah in late May or early June and breed in late June through July. Cuckoos typically start their southerly migration by late August or early September. Yellow-billed cuckoos are considered a riparian obligate and are usually found in large tracts of cottonwood/willow habitats with dense sub-canopies (below 33 feet).

Based on information obtained from the UDWR, there are no recently documented occurrences of the yellow-billed cuckoo near the project action area (see Attachment #6, UDWR Letter). Adjacent to the project area there are scattered but established cottonwood stands along Hardscrabble Creek. These cottonwoods would likely not be cleared as a result of the piping actions. The IPaC listing does not qualify the project action area as critical habitat for the yellow-billed cuckoo. Nonetheless, the yellow-billed cuckoo has the potential to use areas within the project action area for nesting during portions of the year (late May through early September). Construction activities would begin after yellow-billed cuckoo should have migrated away from the project action area, and construction activities would end before birds should return to the area for breeding. Based on the project timing, coupled with the lack of documented occurrences of the yellow-billed cuckoo in the defined action area, a no effects determination is warranted for the yellow-billed cuckoo.

Conclusion

The anticipated construction activities correlated to the proposed West Porterville Piping Alignment will have no effect on the bald eagle, bluehead sucker, bobolink, Bonneville

cutthroat trout, Canada lynx, or yellow-billed cuckoo. These determinations are based on habitat conditions observed within the project action area, agency coordination, the extent and anticipated elements of the project actions, and/or construction timing. Table 5 is a summary of the effect determinations presented in this BA.

Table 5. Summary of effect determinations.

| Common Name | Scientific Name | ESA Status | Effect Determination |
|----------------------------|---|------------------------------|----------------------|
| Bald eagle | <i>Haliaeetus leucocephalus</i> | State Sensitive | No effect |
| Bluehead sucker | <i>Catostomus discobolus</i> | Endangered - State Sensitive | No effect |
| Bobolink | <i>Dolichonyx oryzivorus</i> | State Sensitive | No effect |
| Bonneville cutthroat trout | <i>Oncorhynchus clarkii Utah</i> | State Sensitive | No effect |
| Canada lynx | <i>Lynx canadensis</i> | Threatened | No effect |
| Yellow-billed cuckoo | <i>Coccyzus americanus occidentalis</i> | Threatened | No effect |

It is our understanding that this letter satisfies the project proponent’s responsibilities under Section 7(c) of the ESA at this time. If additional species are listed (or new critical habitat is designated) prior to completion of construction, and the species (or designated habitat) occurs in the project action area, the Bureau of Reclamation must prepare a species evaluation in the same manner as the initial no effects determination. Species for which a no effects determination has previously been prepared will not be readdressed. It should be noted that the final authority regarding ESA species effects determination rests with the appropriate Federal agencies.

Please contact me with any further questions or concerns. I can be reached at (801) 555-8332 or via email at afoushee@jub.com.

Submitted by:

Autumn Foushee, Ecologist
J-U-B ENGINEERS, Inc.

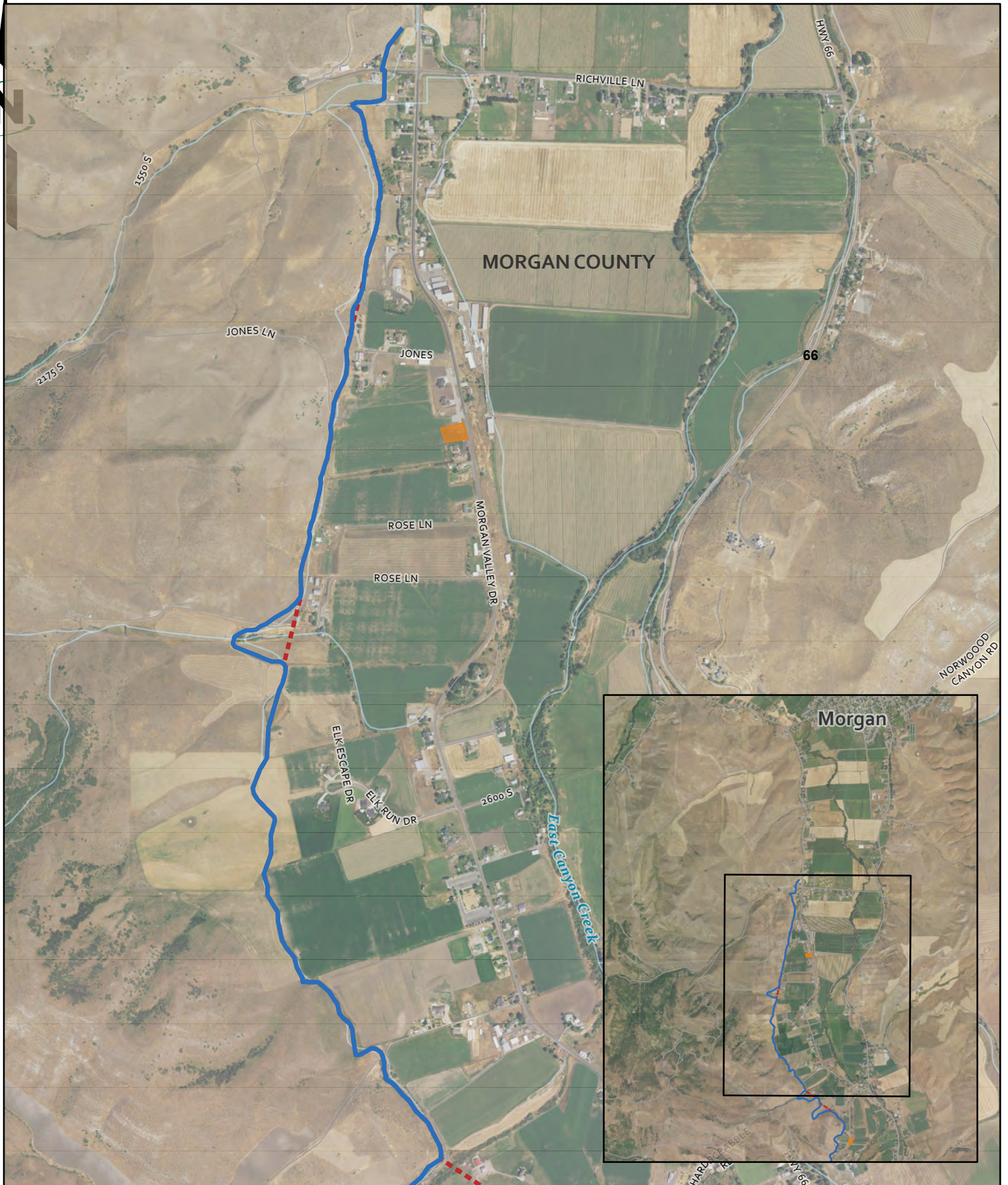
List of Attachments:

1. Vicinity Maps

2. Photo Inventory
3. Diversion Site Plan
4. West Porterville Proposed Alignment Exhibit
5. USFWS IPaC Listing (dated: 10-12-2017)
6. UDWR Letter (dated: 10-30-2017)
7. UDWR Email Correspondence (dated: 11-7-2017)
8. UDWR Email Correspondence (dated: 11-20-2017)
9. UDWR Email Correspondence (dated: 11-28-2017)

References Cited

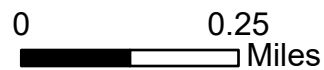
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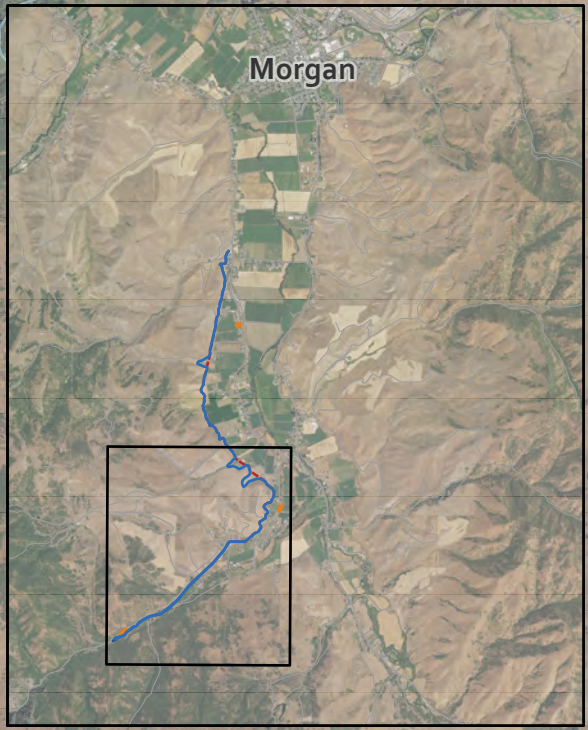
West Porterville EA
Porterville, UT
Project Location Map
(North)

- Existing Alignment
- - - Proposed Alignment
- Staging Area

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of J-U-B Engineers, Inc., and is not to be used, in whole or part, for any other project without the express written authorization of J-U-B Engineers, Inc.



OTHER J-U-B COMPANIES



West Porterville EA
Porterville, UT
Project Location Map
(South)

- Existing Alignment
- Staging Area
- - - Proposed Alignment
- Existing Pond

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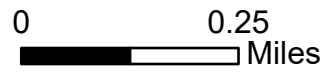


Photo Inventory

The following photos were taken during a site visit conducted on October 19, 2017.



Photo 1: This photo depicts the landscape and plants surrounding Hardscrabble Creek.



Photo 2: This photo illustrates the reservoir pond that will be excavated (3,000 cubic yards) and extended as part of the proposed project.



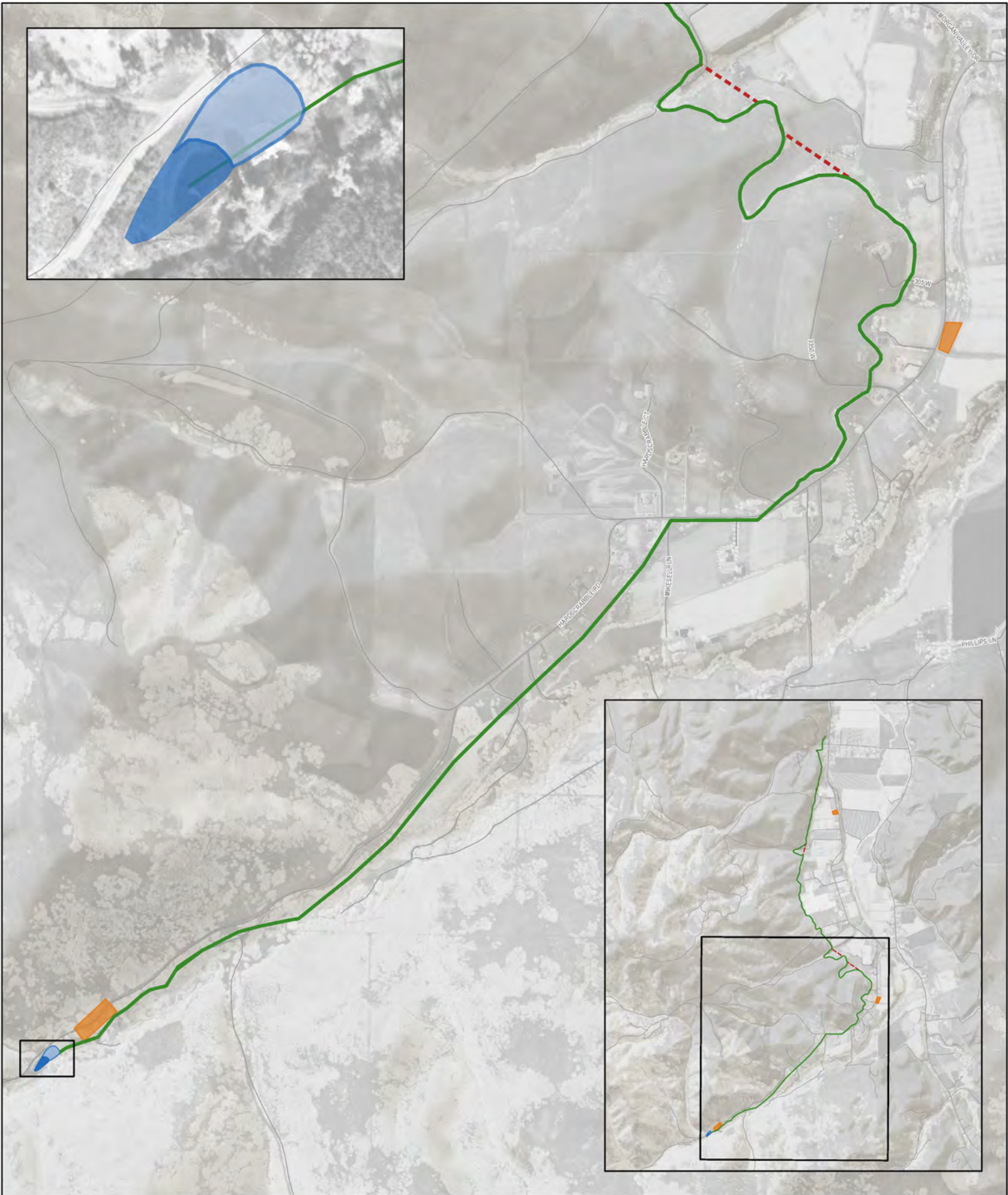
Photo 3: This photo shows an existing drainage culvert that runs under Hardscrabble Road near the existing reservoir.



Photo 4: The plants present in the project action area include scattered dense stands of narrowleaf cottonwoods, gamble oak, scrub oak, river hawthorn, coyote willow, and red osier dogwood.



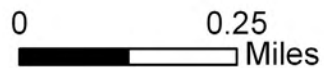
Photo 5: This photo is shows the landscape and variety of plants present in the project action area. Much of the landscape in the project action area is disturbed, agricultural land (alfalfa fields can be seen in this photo). Plants in the area consist of narrowleaf cottonwood, gamble oak, river hawthorn, coyote willow, red osier dogwood, wood's rose, Canada thistle, scrub oak, chicory, curly dock, common plantain, rush skeletonweed, perennial ryegrass, leafy spurge, mountain brome, and Nebraska sedge.



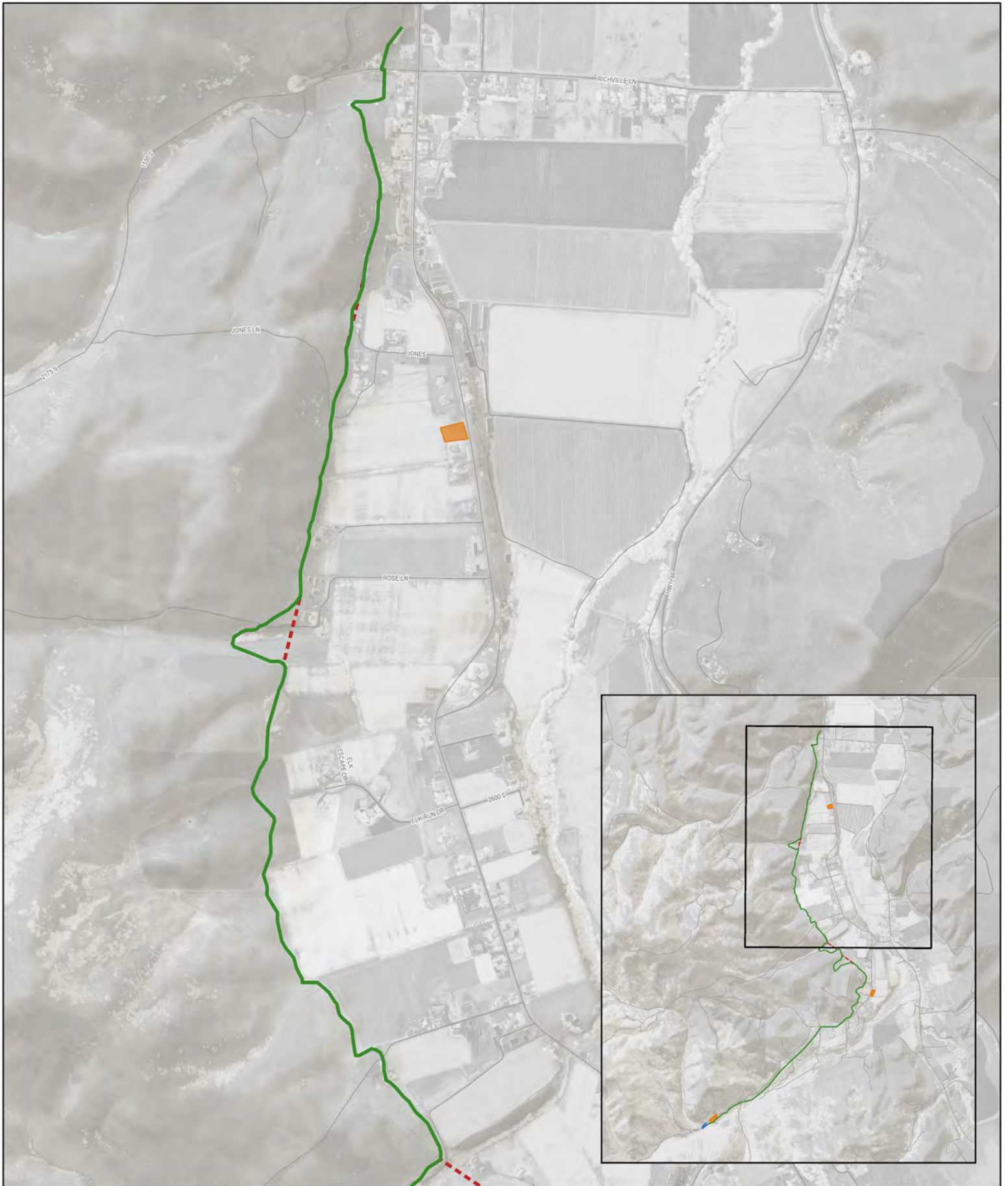
West Porterville EA Porterville, UT Project Location Map

- Existing Alignment
- Proposed Alignment
- Staging Area
- Existing Pond
- Future Pond

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of J-U-B Engineers, Inc., and is not to be used, in whole or part, for any other project without the express written authorization of J-U-B Engineers, Inc.



OTHER J-U-B COMPANIES



West Porterville EA
Porterville, UT
Project Location Map

- Existing Alignment
- - - Proposed Alignment
- Staging Area

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J-U-B ENGINEERS, INC.



OTHER J-U-B COMPANIES



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:

October 12, 2017

Consultation Code: 06E23000-2018-SLI-0024

Event Code: 06E23000-2018-E-00059

Project Name: West Porterville Proposed Realignment

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

To Whom It May Concern:

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please 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
-

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

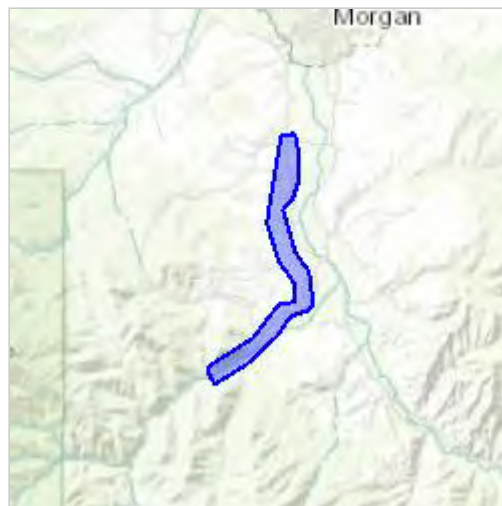
(801) 975-3330

Project Summary

Consultation Code: 06E23000-2018-SLI-0024
Event Code: 06E23000-2018-E-00059
Project Name: West Porterville Proposed Realignment
Project Type: WATER SUPPLY / DELIVERY
Project Description: West Porterville Proposed Realignment IPaC
Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/40.98154396992474N111.68989844389432W>



Counties: Morgan, 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. 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.

Mammals

| NAME | STATUS |
|--|------------|
| Canada Lynx <i>Lynx canadensis</i> Population: Contiguous U.S. DPS 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 <i>Coccyzus americanus</i> 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 | Threatened |

Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources

MICHAEL D. FOWLKS
Division Director

October 30, 2017

Lexie Yoder
J-U-B Engineers
422 W. Riverside, Suite 304
Spokane, WA 99201

Subject: Species of Concern Near the West Porterville Proposed Alignment Project

Dear Lexie Yoder:

I am writing in response to your email dated October 20, 2017 regarding information on species of special concern proximal to the West Porterville Proposed Alignment Project located in Sections 11, 14, 23, 24, 25, 26 and 34 of Township 3 North, Range 2 East, SLB&M in Morgan County, Utah.

Within a ½-mile radius of the project area noted above, the Utah Division of Wildlife Resources (UDWR) has recent records of occurrence for bald eagle and Bonneville cutthroat trout. In addition, within a two-mile radius there are recent records of occurrence for bobolink and bluehead sucker. All of the aforementioned species are included on the *Utah Sensitive Species List*.

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

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's habitat manager for the northern region, Scott Walker, at (801) 476-2776 if you have any questions.

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

Sincerely,

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Scott Walker

Lexie Yoder

From: Scott Walker <scottwalker@utah.gov>
Sent: Monday, November 20, 2017 9:30 AM
To: Lexie Yoder
Subject: Re: West Porterville Pipeline Bald Eagles

Lexie,

Thanks for sending the maps. They were very helpful. I spoke with our sensitive species biologist and reviewed the maps. There should not be a problem with your project impacting any known areas of Bald Eagle roosts or nest trees. Based on the maps the project is far enough away from any potential sites and in proximity of houses and roads.

You should be good to go and proceed with your project in regards to wildlife as long as the scope of the project does not change. If the scope does change please contact me for further information.

Let me know if you need anything else from us.

Thanks for considering wildlife in your project.
SW

On Fri, Nov 17, 2017 at 11:23 AM, Lexie Yoder <lyoder@jub.com> wrote:

Hi Scott,

Thank you for returning my call! I have attached the West Porterville Proposed Alignment Exhibit, and I attempted to follow that alignment as close as possible for the attached KMZ file. I really appreciate your help on figuring this out. I will pass your voicemail along to Vince as well. If you need additional information or different maps, please let me know. Thank you again, especially during this busy time of year.

Lexie Yoder

Environmental Planner

J-U-B ENGINEERS, Inc.

W 422 Riverside Ave, Suite 304, Spokane, WA 99201

e lyoder@jub.com w www.jub.com

p [509 458 3727](tel:5094583727) f [509 458 3762](tel:5094583762)