RECLAMATION
Managing Water in the West

Environmental Assessment
Hobble Creek Piping Project

PRO-EA-19-002

Upper Colorado Region
Provo Area Office
Provo, Utah

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

November 2019

Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors 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.

Environmental Assessment Hobble Creek Piping Project

Upper Colorado Region
Provo Area Office
Provo, Utah

prepared by *Bureau of Reclamation*
Provo Area Office
302 East 1860 South
Provo, Utah 84606
(801) 379-1081
pfeltrop@usbr.gov

U.S. Department of the Interior
Bureau of Reclamation
Provo Area Office
Provo, Utah **November 2019**

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

FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment Hobble Creek Ditch Piping Project
Utah County, Utah

EA-19-002

Recommended by:

Peter Crookston
Environmental Group Chief

11/25/2019
Date

Concur:

Rick Baxter
Water, Environmental, and Lands
Division Manager

11/25/2019
Date

Approved by:

Wayne G. Pullan
Area Manager, Provo Area Office

02 DEC 2019
Date

I. Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Reclamation (Reclamation), Provo Area Office has conducted an Environmental Assessment (EA; attached) to determine the potential effects to the human and natural environment of replacing 2.6 miles of the open Hobble Creek Ditch with a new 24-inch high-density polyethylene (HDPE) pipeline (Proposed Action). Two federal actions are evaluated in this EA. First, Reclamation must determine whether to authorize federal funds, available through Reclamation's WaterSMART program, for the Proposed Action. Second, the U.S. Forest Service (USFS) must decide whether or not to approve the Proposed Action and amend special use permit SPK400404 or issue a new permit. A total of 8.78 acres of National Forest System land would be affected by the Proposed Action.

A public meeting was held on July 11, 2019 in Mapleton, Utah to discuss the Draft EA. Approximately 15 individuals attended the meeting. A 30-day comment period began June 25, 2019, and ended July 25, 2019. Comments received on the Draft EA and responses to those comments are included in Appendix A of the Final EA.

II. Alternatives

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

No Action
Under the No Action Alternative, no changes would be made to the Hobble Creek Ditch system and it would not be converted to a pressurized pipeline. Therefore, the system would remain in disrepair and continue to lose water through seepage and evaporation, which means the negative impact on shareholders, the local community, and the local economy would continue.

Proposed Action
The Proposed Action would involve replacing 2.6 miles of the Hobble Creek Ditch system with a pressurized pipeline. The existing system consists of a combination of open ditches (41 percent), corrugated polyethylene pipe or reinforced concrete pipe (59 percent), and a box culvert.

Specific construction activities would consist of removing the existing pipe and structures, installing a new 24-inch high-density polyethylene (HDPE) pipeline, constructing a new transition and screen to allow the water to enter the proposed pipe, installing new turnouts at existing locations, and installing other related appurtenances (air vents, meters, etc.) as deemed necessary. The proposed pipeline alignment would primarily follow the existing ditch/pipeline alignment and allow flows of up to 15 cubic feet per second (cfs). The entire pipeline would be pressurized with maximum pressures close to 30 pounds per square inch (psi). Turnouts would allow water to be delivered to an existing ditch, or, the water users could connect directly to the pressurized pipeline. A proposed concrete structure would be built to transition into the proposed pipe and allow for an electrical rotating screen to remove the debris and decrease the amount of silt entering the system. Lastly, Mapleton Irrigation District and Company (MIDC) would coordinate with Mapleton City to provide secondary water to residents through the Mapleton City secondary irrigation pond as the existing farms are developed into homes and businesses.

The purpose of the Proposed Action is to meet the need for additional water demand due to residential development. The Proposed Action fulfills the need for action by minimizing water loss through seepage and evaporation by nearly 1,685 acre-feet of water annually. Additionally, the Proposed Action would reduce the impacts of periodic drought, annual maintenance costs, and safety concerns associated with the open ditch system.

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

1. Additional Analyses - If the Proposed Action were to change significantly from that described in this EA because of additional or new information, or if other spoil, or work areas beyond those outlined in this analysis are required outside the defined construction area, additional environmental analyses may be necessary.

2. Cultural Resources - If any surface or subsurface cultural resources are discovered during construction, work in the area shall halt immediately and Reclamation's Provo Area Office archaeologist shall be notified. The archaeologist will assess the resource and recommendations for how to proceed.

3. Human Remains - 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 archaeologist. The area will be protected until the proper authorities are able to assess the situation onsite. This action will promptly be followed by written confirmation to the responsible federal agency official, with respect to federal lands. The Utah State Historic Preservation Office (SHPO) and interested Native American Tribal representatives will be promptly notified. Consultation will begin immediately. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (43 CFR Part 10); and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470).

4. Paleontological Resources - Should vertebrate fossils be found within the proposed area of potential effect (APE), the area would be monitored until a qualified paleontologist could assess the find.

III. Summary of Impacts

A total of 19 resources were analyzed based on a No Action alternative (Hobble Creek Ditch is not piped), Proposed Action alternative (2.6 miles of Hobble Creek Ditch is converted into a pressurized pipeline), and Cumulative Effects (Proposed Action alternative plus reasonably foreseeable actions as defined in 40 Code of Federal Regulations (CFR) 1508.7 and 43 CFR 46.30). A no effect or similar determination was made for each resource as summarized below.

1. Hydrology – There would be no effect to hydrology.
2. Recreation – No effect to recreation could be identified.
3. Wetlands, Riparian, Noxious Weeds, and Vegetation – There would be minimal to no change in these resources under the Proposed Action.
4. Fish and Wildlife Resources – No effect on fish and wildlife resources would be expected as a result of the Proposed Action.
5. Threatened and Endangered Species – A "no effect" determination was made for all species identified in the U.S. Fish and Wildlife Service's Information, Planning, and Conservation (IPaC) report and included in the EA.
6. Sensitive Species – There would be no effect to sensitive species.
7. Socioeconomics – Impacts to socioeconomics would not be significant, as described in the EA.
8. Water Rights – No new water rights would be acquired as part of the Proposed Action.
9. Cultural Resources – There would be no effect to cultural resources. The Utah SHPO concurred with Reclamation's determination.
10. Paleontology – There would be no impact to paleontological resources.
11. Floodplains – There would be no changes in flood frequency or duration under the Proposed Action.
12. Geology and Soils – No effects to geology and soils could be identified.
13. Indian Trust Assets – The Proposed Action would have no effect on Indian Trust Assets.
14. Environmental Justice – There are no environmental justice implications from the Proposed Action.
15. Access and Transportation – There would be no effect to access or transportation.
16. Health, Safety, Air Quality, and Noise – No effects to these resources could be identified.
17. System Operations – There would be no effect to system operations.
18. Water Quality – There would be minimal to no change in water quality under the Proposed Action.
19. Visual Resource – No effects to visual resources could be identified.

IV. Finding of No Significant Impact

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

V. Decision

It is my decision, therefore, to implement the Proposed Action as described in the attached EA.

Contents

Page

Chapter 1 Purpose and Need for Proposed Action

1.1 Introduction

This Environmental Assessment (EA) was prepared to examine the potential environmental impacts of the Hobble Creek Piping Project (Project). This action is proposed by the Mapleton Irrigation District and Company (MIDC) in Utah County, Utah. Figure 1-1 shows the general Project location. If approved, the U.S. Bureau of Reclamation (Reclamation) would authorize the use of Federal funds to pipe 13,750 feet of the open ditch, and the existing pipe would be replaced with a pressurized pipeline. The proposed pipeline alignment would primarily be in the existing ditch alignment. The Project would also include construction of a new inlet structure, turnout structures, and an outlet structure.

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

1.2 Background

The MIDC was formed in 1914 to provide irrigation water to residents in Mapleton City within an approximately 3,000-acre area. Three main water sources provide irrigation water to its users. One of these sources is Hobble Creek, which begins near Daniels Summit in Wasatch County and flows nearly 21 miles where it terminates into Utah Lake. The MIDC diverts water from Hobble Creek, approximately 1.5 miles from the mouth of Hobble Creek Canyon, into the Hobble Creek Ditch that is approximately 3 miles long and flows on the southern side of Hobble Creek Canyon. The ditch is 6,600-feet-long, of which 1,200 feet is unlined, and 5,400 feet is concrete lined. Additionally, about 9,400 feet of buried pipeline includes reinforced concrete pipe (RCP), corrugated polyethylene pipe, and a concrete box culvert. The water transitions from open ditch to a pipeline as it passes through subdivisions and homes.

Residential growth in this area has resulted in farms and irrigable land being converted to subdivisions and developments. The MIDC has worked with developers and Mapleton City to alter the delivery system to allow for growth while continuing to deliver water to its shareholders.

Some of the existing pipe is undersized and therefore restricts the flow that MIDC can divert. The conveyance system is also in disrepair. There are several sections of pipeline that run through hillside properties where soil has sloughed away and exposed the pipe. In other areas the concrete ditch has been damaged due to age and tree roots pushing the concrete out of place.

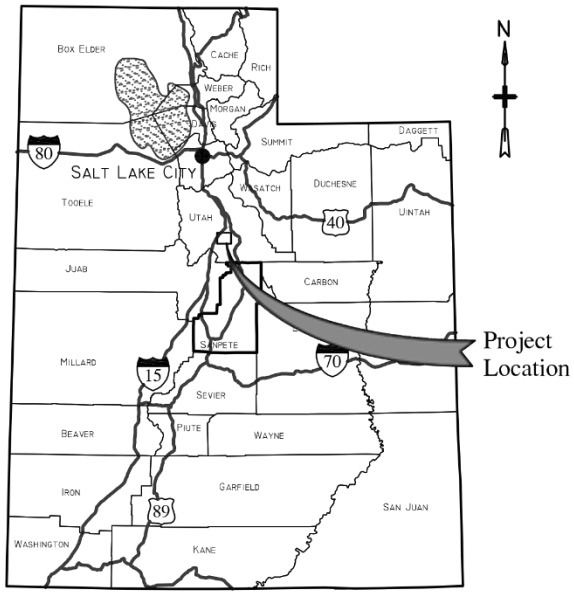
Over several seasons MIDC has taken flow measurements at locations along the Hobble Creek Ditch and found that about 33 percent of the diverted water is lost to seepage. This Project is estimated to conserve approximately 1,685 acre-feet of water per year.

1.3 Need for Action

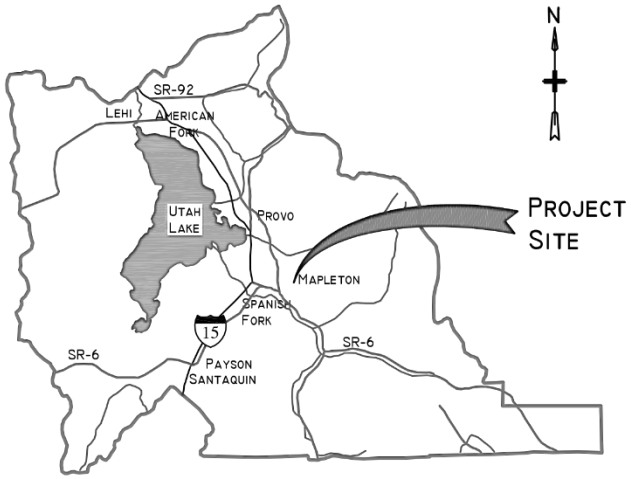
Shareholders that depend on water from the Hobble Creek Ditch need an efficient, reliable irrigation water supply and a sustainable conveyance system. This Project would:

- Provide a piped water system for an area that is growing with subdivisions and developments converted from agricultural lands
- Meet the need for additional water demand due to residential development
- Minimize loss through seepage and evaporation by nearly 1,685 acre-feet of water annually
- Reduce the annual maintenance costs for the delivery system
- Minimize the safety concerns
- Reduce the amount of silt entering the system with a new diversion structure
- Reduce the impact of periodic droughts

Procedural requirements of NEPA need to be met when a Federal agency has discretion over an action. The NEPA applies to this Project due to partial funding of the Project with a grant administered through Reclamation's WaterSMART Program. This EA evaluates the potential effects of the two alternatives to determine if there would be significant impacts to the human or natural environment. If the EA does not identify significant impacts associated with one of the alternatives, then a FONSI would be issued by Reclamation. The FONSI would identify the alternative chosen, based on the analysis in this EA.



Utah



Utah County

FRANSON CIVIL ENGINEERS	DATE: January 28, 2019 SCALE: Figures.dwg P:\UT\Central\Mapleton City\MIDC Hobble Creek WaterSMART Application\Drawings LAYOUT: Figure 2	Mapleton Irrigation District & Company Hobble Creek Piping Project	Figure 1-1 Location Maps

1.4 Public Scoping and Involvement

A public meeting was held on July 11, 2019, from 6:00 to 7:30 pm at the Mapleton City Building to discuss the Project, solicit input, and answer questions about the draft EA. Notices of this meeting were mailed to property owners along the proposed Project alignment and all MIDC shareholders. Two sets of comments were received and are included in Appendix A with responses.

1.5 Permits and Authorizations

Implementation of the Proposed Action may require authorizations or permits from state and federal agencies. The MIDC would be responsible for obtaining all permits and authorizations required for the Project. Potential authorizations or permits may include those listed in Table 1-1.

Table 1-1
Permits and Authorizations

Agency/Department	Purpose
Utah Department of Environmental Quality (UDEQ), Division of Water Quality (DWQ)	A Utah Pollutant Discharge Elimination System (UPDES) permit for construction activities would be required to help prevent erosion and ensure that sediment controls are utilized to minimize construction impacts. The Project contractor would prepare the Storm Water Pollution Prevention Plan (SWPPP) and comply with all elements of the General Construction Permit.
Utah State Historic Preservation Office (SHPO)	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470 USC 470.
U.S. Forest Service	Special Use Permit, Authorization ID: SPK400404.
Utah Department of Natural Resources (DNR), and private property	Easements/Rights-of-Way.

1.6 Scope of Analysis

Project analysis in this EA includes temporary impacts from construction activities and permanent impacts resulting from enclosing the ditch. The Project occurs in Utah County, Utah as depicted in Figure 1-1.

Chapter 2 Alternatives

2.1 Introduction

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

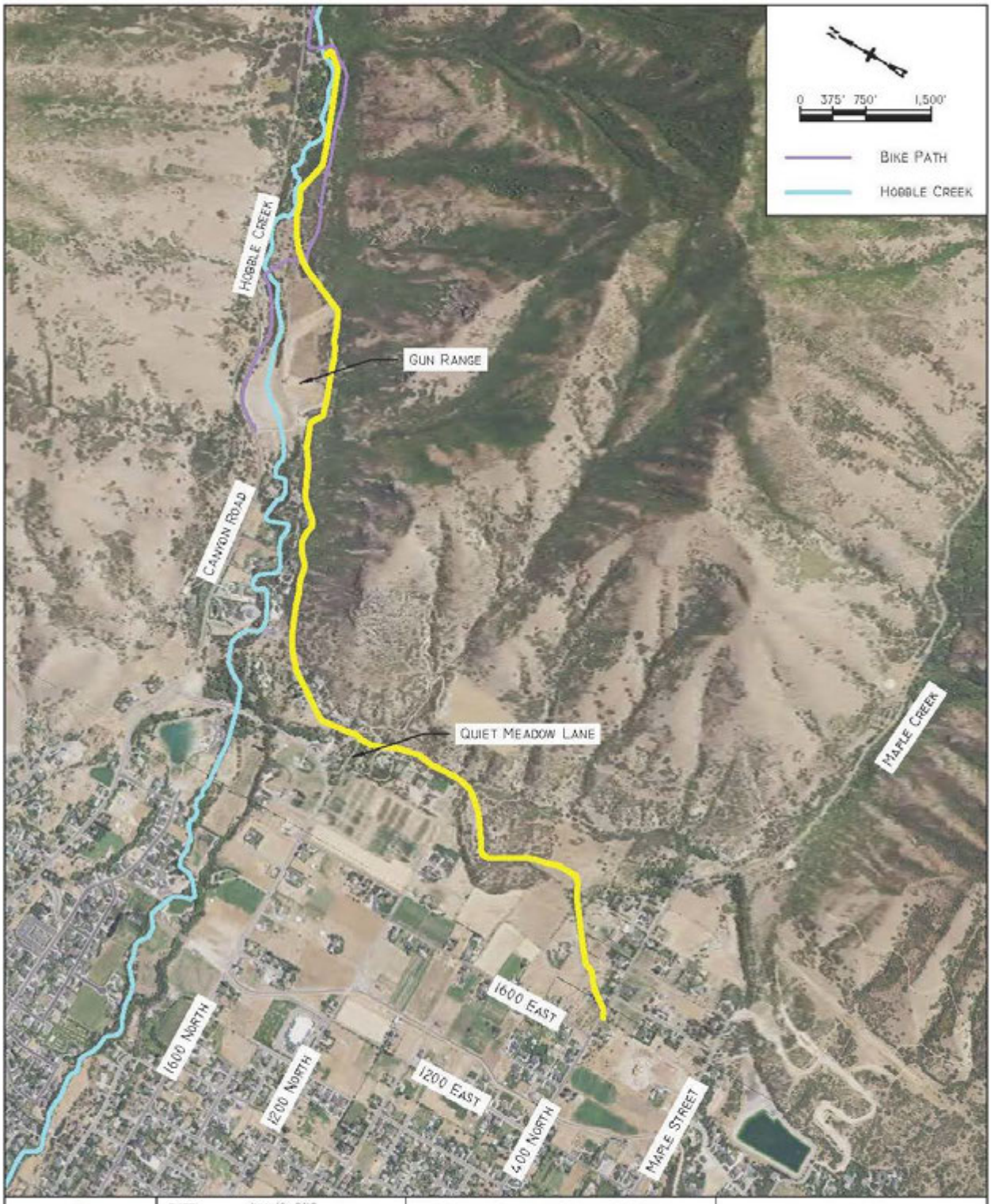
2.2 No Action

Under the No Action Alternative, no changes would be made to the Hobble Creek Ditch system and it would not be converted to a pressurized pipeline. Therefore, the system would remain in disrepair and continue to lose water through seepage and evaporation, which means the negative impact on shareholders, the local community, and the local economy would continue. Figure 2-1 shows the existing conveyance system alignment.

2.3 Proposed Action

The Proposed Action is the preferred alternative. The Proposed Action would involve replacing 2.6 miles, or about 13,750 feet of the ditch system, currently a combination of existing open ditches (41 percent), corrugated polyethylene pipe or RCP (59 percent), and box culvert with a pressurized pipeline. Figure 2-2 shows the proposed Project alignment and staging areas.

Specific Project activities would consist of removing the existing pipe and structures, installation of a new 24-inch high-density polyethylene (HDPE) pipeline, constructing a new transition and screen to allow the water to enter the proposed pipe, installation of new turnouts at existing locations, and installation of other related appurtenances (air vents, meters, etc.) as deemed necessary. The proposed pipeline alignment would primarily follow the existing ditch/pipeline alignment and allow flows of up to 15 cubic feet per second (cfs). The entire pipeline would be pressurized with maximum pressures close to 30 pounds per square inch (psi). Turnouts would allow water to be delivered to an existing ditch, or, the water users could connect directly to the pressurized pipeline. A proposed concrete structure would be built to transition into the proposed pipe and allow for an electrical rotating screen to remove the debris and decrease the amount of silt entering the system. Lastly, MIDC would coordinate with Mapleton City to provide secondary water to residents through the Mapleton City secondary irrigation pond as the existing farms are developed into homes and businesses.



FRANSON CIVIL ENGINEERS

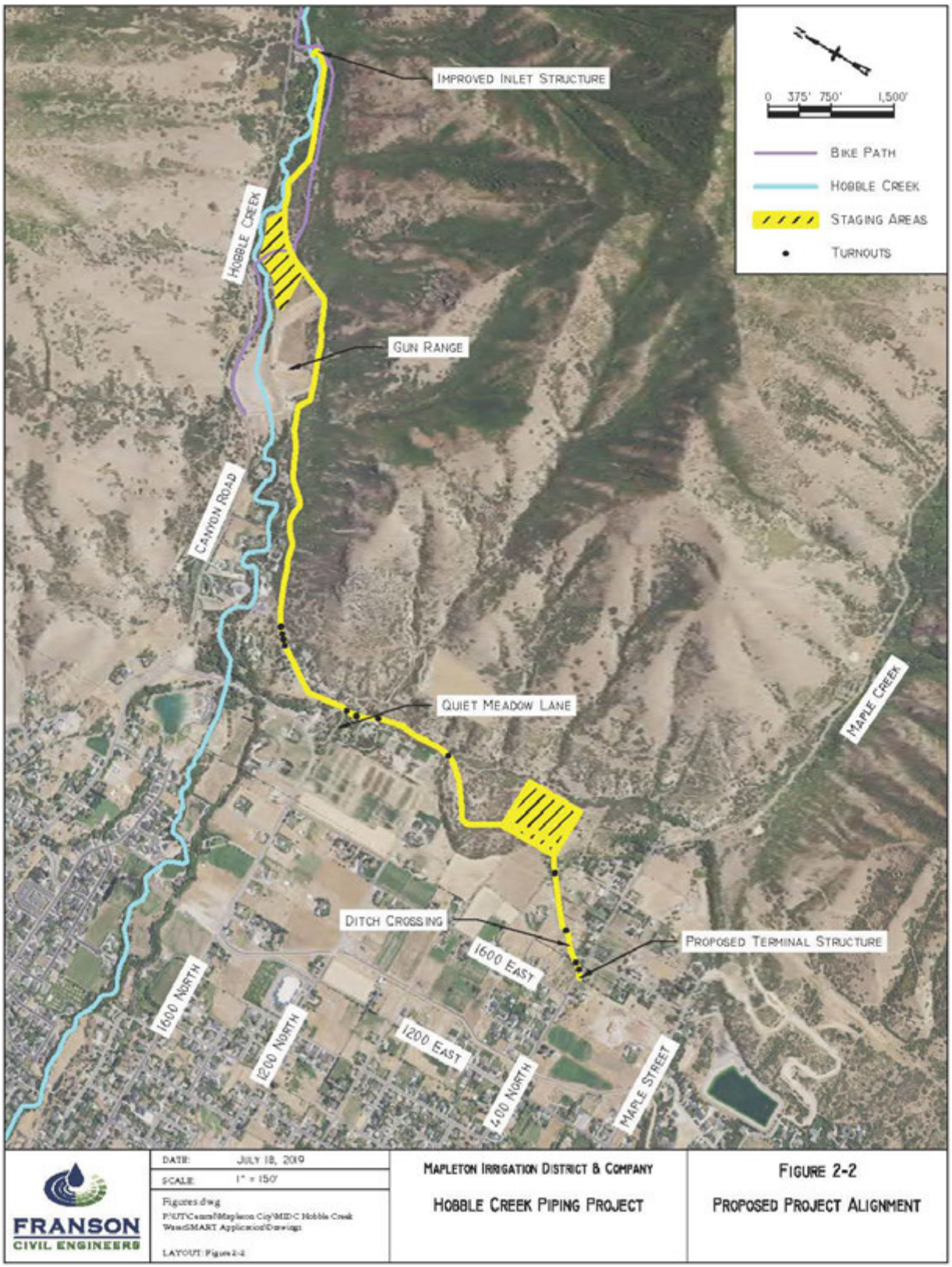
DATE: JULY 18, 2019
SCALE: 1" = 150'
Figures.dwg
P:\UT\Cmore\Mapleton City\MID\C Hobble Creek Weed\SMART Application\Drawings
LAYOUT: Figure 2-1

MAPLETON IRRIGATION DISTRICT & COMPANY

HOBBLE CREEK PIPING PROJECT

FIGURE 2-1

EXISTING ALIGNMENT


IMPROVED INLET STRUCTURE
0 375' 750' 1,500'
BIKE PATH
HOBBLE CREEK
STAGING AREAS
TURNOUTS
HOBBLE CREEK
GUN RANGE
CANYON ROAD
QUIET MEADOW LANE
MAPLE CREEK
DITCH CROSSING
PROPOSED TERMINAL STRUCTURE
1600 EAST
1600 NORTH
1200 NORTH
1200 EAST
400 NORTH
MAPLE STREET
FRANSON
CIVIL ENGINEERS
DATE: JULY 18, 2019
SCALE: 1" = 150'
Figures.dwg
P:\UTC\com\Mapleton City\MID\C Hobble Creek
Wood\SMART Application\Drawings
LAYOUT: Figure 2-2
MAPLETON IRRIGATION DISTRICT & COMPANY
HOBBLE CREEK PIPING PROJECT
FIGURE 2-2
PROPOSED PROJECT ALIGNMENT

2.3.1 Ditch Enclosure

The pipeline would be designed so as not to exceed the industry accepted standard water velocity of 5 cfs (NRCS Utah FOTG 2018). A hydraulic model has been prepared based on the determined design flows at each shareholder's delivery point to evaluate potential surges and verify sizing and pressure requirements. Air valves, control valves, drains, fittings, and relief valves would be installed at appropriate locations to ensure the proper operation of the pipelines.

The Project would use 24-inch HDPE pipe which has an industry-accepted life expectancy of 50 years. Corrosion resistant fittings would be used to increase the life expectancy of all fittings and appurtenances. All non-HDPE fittings would be wrapped with polyethylene (8 mils thick) to prevent direct contact of any non-galvanized parts with the soil.

2.3.2 Inlet Structure

At the existing diversion structure, a new concrete structure would be built to transition into the pipeline and an electrical rotating screen would be added to remove debris. The work would be adjacent to Hobble Creek and involve installing a pipe inlet which would prevent sediment and debris from entering the pipeline. Operation and maintenance costs would be reduced since some of the maintenance would be automated with a rotating screen. A Stream Alteration Permit was approved under Application No. 19-51-03SA. The Army Corps of Engineers was consulted and determined that the proposed Project is exempt from authorization under Section 404 of the Clean Water Act (CWA).

2.3.3 Turnouts

Fourteen turnouts would be installed along the pipeline to deliver water. The locations are shown on Figure 2-2. The amount of water available to the turnouts would be regulated by the pressure sustaining valve located near the termination structure. Each turnout would have a battery powered magnetic flow meter installed to account for water diversions.

2.3.4 Terminal Structure

A new terminal structure would replace the use of the existing structure which is currently in disrepair. The location is shown on Figure 2-2. The purpose of the terminal structure would be to provide safe pressure relief as well as a way for the water to enter the existing ditch delivery system at the end of the proposed Project. A pressure sustaining valve would be installed so that the upstream pressure would be maintained while also delivering water to users downstream. The structure would also have a trash rack screen and control gates and riprap to protect the outlet.

2.3.5 Rights-of-Way

Construction would occur on public land with existing rights-of-way. It would also occur on land belonging to the U.S. Forest Service, Utah Department of Natural Resources, and private property, of which easements or rights-of-way are being obtained.

2.3.6 Road Crossings

There would only be one road crossing along Quiet Meadow Lane. The 24-inch HDPE pipe would slip line an existing buried 30-inch RCP. After slip lining, the annular space between the two pipes would be filled with sand. There are no other road crossings in the Project. This method of installation would allow the contractor to install pipe without having to remove and dispose of the existing pipe and it would also eliminate the need to trench and compact backfill around the new pipeline.

2.3.7 Ditch Crossings

The proposed pipeline would be placed directly under an existing storm water ditch just north of 400 North for approximately 1,100 feet. The existing storm water ditch conveys water from Maple Canyon into the ditch distribution system below the Project. The alignment would be open cut, the pipeline installed, and then the ditch restored to its original form to carry storm water. Historically, this ditch carried water only during rare storm events.

2.3.8 Saved Water

An estimated 1,685 acre-feet of water would be conserved by implementing this Project, which would be used by the MIDC shareholders to decrease shortages and improve water management. With good construction practices, the losses due to seepage and evaporation would be near zero. This saved water does not constitute a new source of water under Utah water law.

The Project would benefit all water users on the system. This water from the Project would allow MIDC's water to be fully utilized in the system rather than being lost to seepage and evaporation before it gets to any users.

2.3.9 Construction Schedule and Ditch Operation During Construction

The Project consists of constructing 2.6 miles of pipeline. It is anticipated that the work would begin fall 2019 and that all construction could be completed by the fall 2020. Construction activities would cease during the 2020 irrigation season and the placed pipe would function as a gravity pipe until the Project is completed.

The MIDC's board members would work with the affected property owners to address their concerns to the extent practicable. They would also provide access to homes and private driveways during construction.

2.3.10 Project Construction Procedures

2.3.10.1 Construction Sequence

Construction would likely occur in the following sequence:

- Clear, grade, and excavate in the pipeline construction corridor
- Install pipeline bedding materials
- Haul pipe to construction sites
- Place pipeline
- Backfill around pipeline and regrade surface
- Clean up and restore areas disturbed by construction
- Reseed with native vegetation in the construction corridor and other disturbed areas for soil stabilization

2.3.10.2 Clear, Grade and Excavate Within Pipeline Construction Corridor

The pipeline alignment, including ditch locations where the pipeline would be placed, would be excavated and graded to provide a base for installation of the pipeline. It is anticipated that the access road to the gun range would be used to access the alignment south of Hobble Creek. The concrete lined ditch would be removed, starting at a downstream location and moving upstream until the diversion structure is reached. All excess material would be disposed of within easements or moved to the staging area for appropriate disposal later. Much of the excavated material could be used for backfilling around the pipeline. Any excess soil material would be disposed of in ways that would blend the material with adjacent lands. If there is unsuitable backfill, bedding material would be hauled to the Project site and placed in the bottom of the pipeline trench. Stored fill material would not be placed in wet areas.

2.3.10.3 Pipeline Installation

The pipe manufacturer would transport the materials to the work site by flatbed truck and/or specially outfitted loaders. Using construction equipment, contractors would place the pipeline in the prepared alignment adjacent to the trench locations. The trench would then be excavated, and the pipe bedded. The backfill material would be placed at correct compaction levels around the pipeline using excavated material available along the alignment or imported from local commercial sources. Air valves, control valves, drains, fittings, and relief valves would be installed at appropriate locations to ensure the proper operation of the pipeline. Excess spoil in work areas would be blended with existing contours to maintain pre-construction surface water drainage patterns. All construction debris would be removed by the contractor soon after construction is completed.

2.3.10.4 Inlet and Terminal Structures

The inlet structure was designed as a modification to an existing structure on Hobble Creek. The terminal structure would be a new structure located where Hobble Creek Ditch intersects 400 North. Both structures would not impact any culturally sensitive sites, wetlands, and other environmental resources. Both structures would be excavated and graded to facilitate the remaining construction

sequence. Excess material would be disposed of within the construction corridor using best management practices.

2.3.10.5 Quality Control Procedures

The contractor would ensure quality control of the construction process through visual inspection after backfilling and all construction work is completed. The contractor would also adhere to standard specifications in accordance to construction specifications for the Project. Additional system testing such as leak testing using air or water (in accordance with the National Engineering Handbook) startup testing, monitoring pressure gauges and flow meters, and verification of flows and pressures at each turnout would ensure the system operates as designed. The startup testing would take place once water is turned into the system.

2.3.10.6 Construction Staging Areas

Two separate equipment and material storage and staging areas, totaling 39.7 acres, were selected. These areas had been previously disturbed and were reevaluated as part of the Project. These areas had been disturbed due to other construction activities, including construction of the gun range and Hobble Creek bike path, for the staging area inside the canyon, and by residential developers for the staging area outside the canyon. Aside from areas specifically identified for staging, the pipeline alignment would also function as a staging area for the construction crews as they construct the pipeline.

2.3.10.7 Operation and Maintenance

After the completion of the Project, operation of this portion of MIDC's water system would remain essentially unchanged and ongoing maintenance would be reduced significantly. Annual agricultural operation would occur primarily from April 15 to October 15. The system, including the irrigation turnouts, would be designed to drain every fall to prevent freezing. In the spring, when the system is turned on, each turnout would be inspected for leaks or other needed repairs.

Maintenance to the inlet and terminal structures would occur every spring, early enough to allow for necessary repairs and maintenance. The inlet structure would have an electrical rotating screen and the terminal structure would have a pressure sustaining valve and trash rack screen that would both require yearly maintenance.

The existing earthen ditch just north of 400 North would still carry storm water from Maple Canyon and would be maintained by MIDC. This current maintenance arrangement would continue unchanged.

Standard Operating Procedures (SOPs) during construction and Operation and Maintenance (O&M) of the Project, in accordance with an O&M Manual and manufacturer recommendations after construction, would be followed to avoid or minimize adverse impacts on people and natural resources. Chapter 3 of this EA

presents the impact analysis for resources after SOPs have been successfully implemented.

2.4 Alternatives Considered and Eliminated from Further Study

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

2.4.1 Membrane Lining

This alternative would include lining the existing canal with an impermeable membrane, such as an ethylene propylene diene monomer or polyvinyl chloride. This liner would be installed on top of a 6-inch thick layer of clean backfill material and covered with several inches of the same backfill material. This alternative would require full reconstruction of all ditches and laterals, approximately 2.6 miles of total channel length.

This alternative was rejected because of susceptibility to puncturing and the need to repair punctures on a regular basis. Punctures can occur when equipment or large animals, such as livestock and wildlife, enter the canal. It would also still allow debris to enter the canal, it would not shorten the time to make flow changes, and most of the other aspects of an open canal would remain the same. Public safety and evaporation loss would not be addressed with this alternative.

This alternative does not meet the purpose and need of the Project because it would keep the water in an open environment; thus allowing evaporation and contamination.

2.5 Comparison of Alternatives

The suitability of the No Action and Proposed Action Alternatives were compared based on five objectives identified for the Project. The objectives are to provide a reliable irrigation water supply and a sustainable conveyance system for the shareholders of this water source, which would:

- Provide a piped water system for an area that is growing with subdivisions and developments converted from agricultural lands
- Meet the need for additional water demand due to residential development
- Minimize water loss through seepage and evaporation by nearly 1,685 acre-feet of water annually
- Reduce the annual maintenance costs for the delivery system
- Minimize the safety concerns
- Reduce the amount of silt entering the system with a new diversion structure
- Reduce the impact of periodic droughts

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 of this report have been incorporated into the Proposed Action to reduce potential adverse effects.

- The proposed Project construction area would be located in areas previously disturbed, agricultural farmland, existing roads, ditch rights-of-way, and staging areas adjacent to the Project area. This means that new disturbance in areas in a more natural state would be avoided.
- Staging and stockpiling areas would be located where they would minimize new disturbance of area soils and vegetation.
- Ground disturbance would be minimized to the extent practicable.
- The MIDC would require the contractor be responsible during construction for managing safety measures, and minimizing noise, dust, and air and water pollution.
- Only certified weed-free hay or straw or paper mulch if needed, would be used as an erosion control mulch or moisture stabilizing mulch to prevent the spread of invasive weed seed, to control erosion, and to minimize dust after construction.
- The Project would be constructed mostly in the winter so that temporarily disturbed ground would be ready for revegetation in the spring when water is available.
- Project features would be located to avoid riparian areas.

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

Wilderness and Wild and Scenic Rivers

Hydrology

Water Quality

System Operations

Health, Safety, Air Quality, and Noise

Prime and Unique Farmlands

Floodplains

Wetlands, Riparian, Noxious Weeds, and Existing Vegetation

Fish and Wildlife Resources

Threatened, Endangered, and Sensitive Species

Recreation

Socioeconomics

Access and Transportation

Water Rights

Indian Trust Assets

Environmental Justice

Cumulative Effects

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.

Implementing minimization measures would ensure impacts are either avoided or minimized to the greatest extent practicable. Chapter 3 of this document presents the impact analysis for resources after minimization measures and BMP have been successfully implemented.

3.2 Resources Considered and Eliminated from Further Analysis

The following resources were considered but eliminated from further analysis because they did not occur in the Project area or because their effect would be so minor (negligible) that they were discounted.

Table 3-1
Resources Eliminated from Further Analysis

Resource	Rationale for Elimination from Further Analysis
Paleontological Resources	A letter dated January 31, 2019, from the State Paleontologist states there are no paleontological localities recorded within the Project area and that the Project area has a low probability of being paleontologically sensitive.
Wilderness Areas and Wild and Scenic Rivers	There are no designated Wilderness Areas or Wild and Scenic Rivers within the Project area; therefore, Wilderness Areas and Wild and Scenic Rivers would not be affected by implementing the No Action or Proposed Action Alternatives.
Prime and Unique Farmland	Although prime farmland exists near the Project, there would be no conversion of farmland to non-agricultural use, as defined by the Farmland Protection Policy Act (USC 4201-4209), by implementing the No Action or Proposed Action Alternatives. There are no unique farmlands near 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 of this report. The human environment is defined in this study as all environmental resources,

including social and economic conditions occurring in the impact area of influence.

3.3.1 Geology and Soils Resources

Hobble Creek Canyon is in southern Utah County and the creek drains to Utah Lake. Elevations range from approximately 4,980 feet inside the canyon to 4,850 feet at a low spot outside of the canyon. The bedrock of the area consists of structurally complex sedimentary rocks of Precambrian to Permian age. The strata are exposed to the north and east of the Project area. Scarps from the Springville fault, a splay that extends about 2.5 miles into the southern part of Utah Valley near Springville, extends as much as 6 feet high on the alluvial fan of Hobble Creek.

Soils in the lower portion of the Project area have been mapped by the Natural Resources Conservation Service (NRCS) on the websoil survey site. Soils are composed of gravelly fine sandy loam, loamy fine sand, and gravelly loam. The soils up the canyon have not been mapped but are cobbly coarse sandy loam in the riverwash and gravelly sandy loam adjacent to the creek.

3.3.1.1 No Action

The No Action Alternative would have no effect on geology and soils as delivery and application of irrigation water would remain as is.

3.3.1.2 Proposed Action

The Proposed Action Alternative would have temporary surface soil impacts during construction. Construction erosion and sediment controls would serve to minimize these impacts. As a requirement of the UPDES permit for construction activities, a SWPPP would be developed and adhered to by the construction contractor. Disturbed areas would have topsoil and vegetation removed during construction and then replaced. The seeds of native plants in the topsoil would promote the revegetation of the disturbed areas.

3.3.2 Visual Resources

This section assesses the extent to which the Project would change the perceived visual character and quality of the environment where the Project is located. The natural and constructed features contribute to the visual resources within the Project area, including, mountain views, agricultural fields, and vegetation along the ditch. Viewers, including local residents and recreationists, have a perception of the existing physical characteristics.

3.3.2.1 No Action

The No Action Alternative would have no effect on visual resources.

3.3.2.2 Proposed Action

Under the Proposed Action Alternative, there would be changes to the existing visual conditions directly adjacent to the ditch. There would be some temporary soil disturbance that would be revegetated and would have similar visual aspects

after the site stabilization takes place. The large trees that infringe on the ditch would be removed in order to construct the pipeline.

The visual character of the close-range to mid-range would be impacted where trees would be removed within the immediate construction corridor. For the long-range viewers, there would be minimal construction impacts to the overall visual character. All plant disturbance related to construction of the pipeline would be regraded and revegetated.

3.3.3 Cultural Resources

Cultural resources are defined as physical or other expressions of human activity or occupation. Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), mandates that Reclamation consider the potential effects of a proposed federal undertaking on historic properties. Historic properties are a subset of cultural resources that include prehistoric or historic districts, sites, buildings, structures, or objects that are at least 50 years of age and are 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 found in 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).

The significance criteria applied to evaluate cultural resources for eligibility for inclusion on the NRHP are defined in 36 CFR 60.4 as follows:

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

1. That are associated with events that have made a significant contribution to the broad patterns of our history; or
2. That are associated with the lives of significant persons in our past; or
3. 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
4. That have yielded, or may be likely to yield, information important in prehistory or history.

A Class I literature review and a Class III cultural resource inventory were completed for the APE, as defined in the action alternative and analyzed for the Proposed Action, by Bighorn Archaeological Consultants L.L.C. (Bighorn). A cultural resource inventory was completed by Bighorn in November of 2018 and September 2019. Bighorn identified one historical cultural site within the Project APE and one historical site adjacent to the APE. The two sites were previously recorded, but the site records were updated as part of the cultural resources review for this Project. In accordance with 36 CFR 800.4, any sites identified within the APE were evaluated for significance in terms of the above NRHP eligibility criteria. Both sites, 42UT1113, the Mapleton and Springville Ditch, and 42UT1114, the Hobble Creek Road were previously determined NRHP ineligible with concurrence from the SHPO.

3.3.3.1 No Action

The No Action Alternative would have no effect. A continuation of existing management and land use practices would occur, which would include on-going maintenance and repair of existing facilities. There would be no changes to the current conditions.

3.3.3.2 Proposed Action

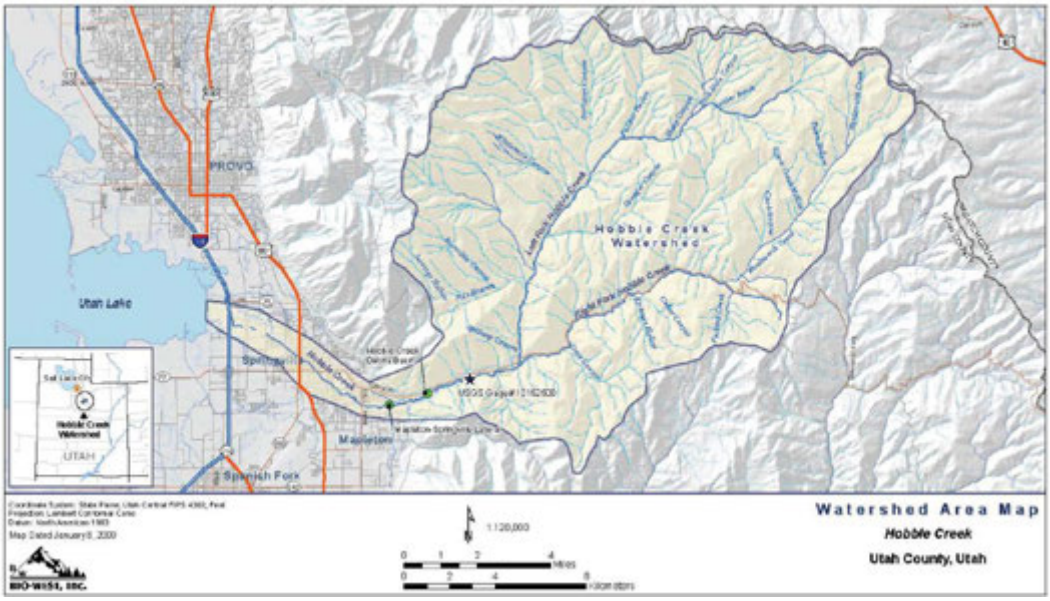
Under the Proposed Action Alternative, Reclamation determined that there would be No Historic Properties Affected. Sites 42UT1113 and 42UT1114 were previously determined ineligible for the NRHP. Reclamation agrees with the previous determinations of eligibility. The Utah SHPO concurred with Reclamation's determination of effect for the Project on March 8, 2019, and after review of the expanded project area on October 4, 2019, (the project determination of effect was still No Historic Properties Affected).

However, construction activities would have the potential to discover previous, unknown, cultural resources and Native American artifacts. In the event of a discovery, construction activity in the vicinity would be suspended. A treatment plan would be developed and coordination with the Utah SHPO would occur immediately (see environmental commitments in Chapter 4 of this report).

3.3.4 Hydrology

Hobble Creek originates in the Wasatch Mountains east of the Project Area at an elevation of approximately 9,000 feet. The total drainage area of Hobble Creek is approximately 114 square miles and it flows nearly 21 miles where it joins Utah Lake, as shown in Figure 3-1. There is a discontinued United States Geological Survey stream gage (#10152500) located approximately 8.9 miles above Utah Lake that operated in Hobble Creek Canyon from 1908-1916 and from 1945-1974. Although there are withdrawals for hydroelectric and irrigation purposes above the gage station, the gage is located downstream from the return points for most of the upper watershed irrigation uses and is below where the power generation returns water to the creek from the Hobble Creek Hydroelectric Plant. Therefore, the discontinued gage data provides a reasonable estimate of natural conditions for Hobble Creek's hydrology.

Figure 3-1. Location and Watershed Area Map



Hobble Creek flows are highly dependent upon snowpack with springtime peak flows typical of snowmelt-driven systems. Flows typically peak at the end of April or in early May with May having the greatest average monthly flow. Base flows average around 20 cfs throughout the year. Figure 3-2 shows Hobble Creek's average monthly flows. Figure 3-3 is the Typical Hydrograph for wet, dry, and average water years based on the discontinued stream gage. Hobble Creek flows vary greatly depending on yearly climatic conditions. In dry years, springtime peaks are essentially nonexistent and in wet years with heavy snowpack, flows exceed the average conditions and peak later in the year. Table 3-2 shows the peak flow data from the discontinued gage (Lower Hobble Creek Ecosystem Flow Recommendations, April 2009).

Figure 3-2
Hobble Creek Flows

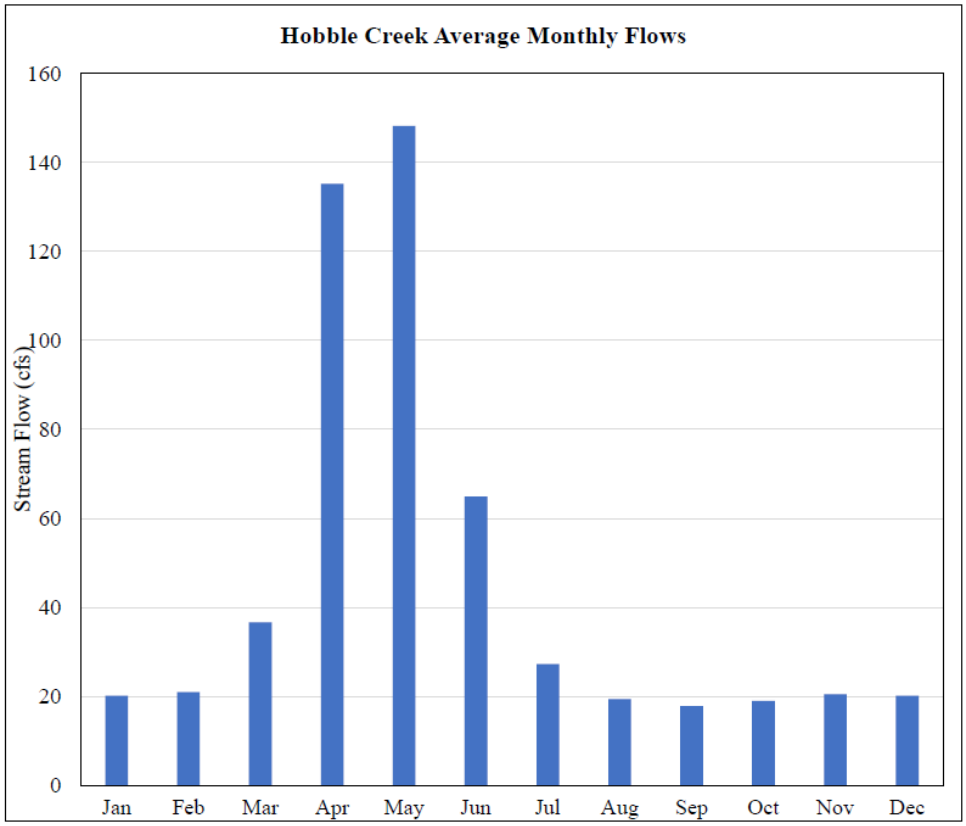


Figure 3-3
Typical Hydrographs for Wet, Dry, and Average Water Years
(USGS Gage #10152500)

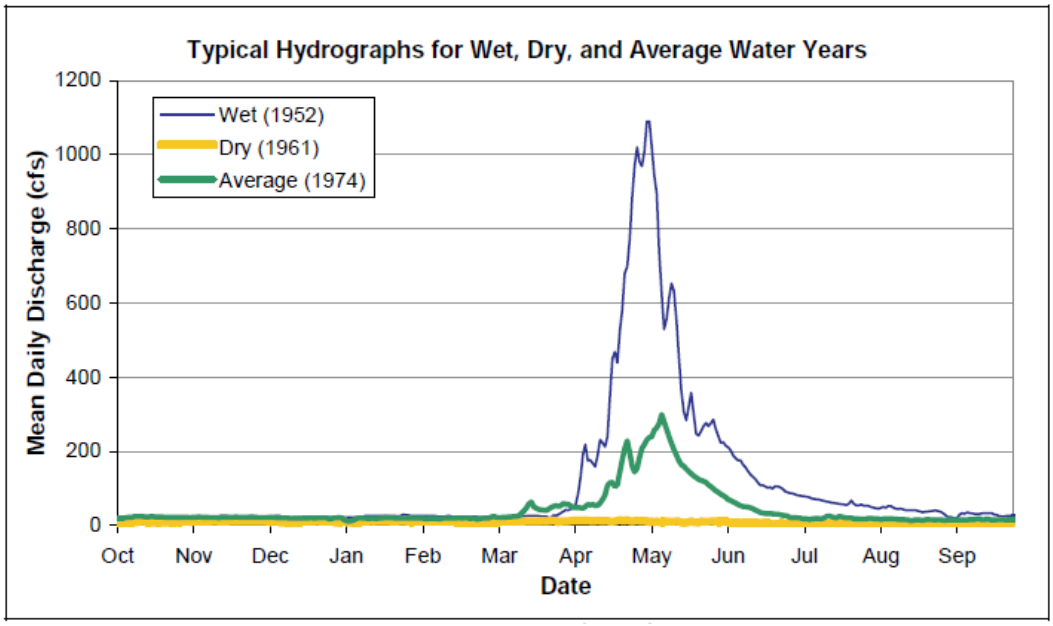


Table 3-2
Peak Flow Data (USGS Gage #10152500)

Peak Flow Characteristic	Hobble Creek
Average date of peak	April 29
Range of dates of peak	February 1 – June 15
Magnitude of 2-year flood[1]	265 cfs
Magnitude of 10-year flood[1]	633 cfs
Magnitude of 100-year flood[1]	1,052 cfs
Years of peak flow data	43

[1]Flow recurrence intervals calculated using Log-Pearson Type III analysis of instantaneous peak flow data. A 2-year flood has a 50% chance of occurring in any given year; a 10-year flood has a 10% chance of occurring in a given year; a 100-year flood has a 1% chance of occurring in a given year.

3.3.4.1 No Action

Under the No Action Alternative, there would be no direct or indirect effect on the hydrology of Hobble Creek, as there would be no change in the existing management of the water resource.

3.3.4.2 Proposed Action

This Project would ensure the water that is diverted would be used to its full potential rather than losing 33 percent of diverted water to seepage and evaporation. An added benefit is that the MIDC would not need to request as much water from the Springville and Mapleton laterals.

3.3.5 Water Quality

The CWA, as amended (1972), dictates water quality requirements. Also, streams, reservoirs, and canals in Utah are classified according to their beneficial uses. The required standards for water quality parameters are determined by the classifications used according to the Standards of Quality for Waters of the State, Environmental Quality (R317-2-6), Utah Administrative Code (UAC). All irrigation canals and ditches statewide (except as otherwise designated) including the Hobble Creek Ditch system are classified as:

- Class 2B — Protected for infrequent primary contact recreation. Also, protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- Class 3E — Severely habitat-limited waters. Narrative standards (R317-2-7.2 UAC) would be applied to protect these waters for aquatic wildlife.
- Class 4 — Protected for agricultural uses including irrigation of crops and stock watering.

Irrigation return flows may discharge into Hobble Creek which feed into Utah Lake. Hobble Creek and its tributaries, from Utah Lake to headwaters are classified as:

- Class 2B — Protected for infrequent primary contact recreation. Also, protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- Class 3A — Protected for cold-water species of game fish and other cold-water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 — Protected for agricultural uses including irrigation of crops and stock watering.

Utah Lake has been identified as a priority water body for development of a site-specific standard for phosphorus. This would provide the wastewater treatment plants, discharging to Utah Lake, certain parameters on phosphorus treatment requirements by 2020.

3.3.5.1 No Action

Under the No Action Alternative there would be no changes to the current conditions or additional effects to water quality. Any herbicides, nutrients, and sediments would continue to remain in the water in the same ratios as current conditions. Phosphorus loads from agricultural runoff and pasture lands would continue at the same levels. Since no construction would occur, there would be no new construction-related water quality impacts.

3.3.5.2 Proposed Action

Under the Proposed Action Alternative, water quality impacts during construction would be minimal, as there is no water in the ditch during the non-irrigation season. Piping the ditch would improve water quality in the system, because water would be conveyed in a closed pipe not allowing exposure to stormwater, agricultural, and urban runoff, garbage and soil bank erosion.

Piping the irrigation system could encourage land owners to convert existing lands from flood irrigation to pressurized sprinkler systems. This change has the potential to reduce runoff from existing flood irrigation practices during the summer months. If all the flood irrigation water in the MIDC were to convert to sprinkler irrigation, it could reduce the total phosphorus loading to Utah Lake during the summer. Winter reductions to the total phosphorus are not expected. There are no foreseeable long-term negative impacts to water quality resulting from the Proposed Action.

3.3.6 System Operations

The Hobble Creek Ditch receives water from the Hobble Creek at the diversion in the canyon. Water is called for from April 15 to October 15 and diverted into the system. The MIDC has water rights allowing for 99.3 cfs from Hobble Creek.

In drier years, flows in Hobble Creek are impacted greatly, which reduce the amount of water available for irrigation diversions. The MIDC has a contract with the Central Utah Water Conservancy District (CUWCD) to receive water

from Strawberry Reservoir as part of the Strawberry Valley Project (SVP). This allows, in drier years, for MIDC to call for the required supplemental water and it is delivered from the Springville and Mapleton Lateral. With drought a common occurrence in the area, the water from Strawberry Reservoir is called for often and is more expensive than water from Hobble Creek. The MIDC receives approximately 5,000 acre-feet per year depending on water needs. Major components of the system include the diversion structure, head gates or irrigation turnouts, and the box culvert.

3.3.6.1 No Action

The No Action Alternative would have no effect on system operations as the MIDC system would continue to operate under its current conditions. They would still require supplemental flows from Strawberry Reservoir through the Springville and Mapleton laterals.

3.3.6.2 Proposed Action

The Proposed Action Alternative would have no effect on the current operation of MIDC's system. By piping the Hobble Creek Ditch, the required maintenance would be reduced because of the minimal flows it would need to handle and the reduced amount of debris from entering the system. The Project would minimize losses from seepage and evaporation by, on average, 1,685 acre-feet of water annually. Therefore, the Proposed Action would have a beneficial impact on the system operations.

3.3.7 Health, Safety, Air Quality, and Noise

The Project is in a rural area which is adjacent to the suburban community of Mapleton and Springville, Utah. Current operations of MIDC have no effect on the general public health in the Project area. Safety can be a concern as water is conveyed through a system of open ditches and pipes. Noise in the area is typical for a rural, agricultural community.

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) for six airborne pollutants: carbon monoxide, particulate matter, ozone, nitrogen dioxide, lead, and sulfur dioxide (EPA 2018). Air quality conditions within the state are designated with respect to the NAAQS attainment, maintenance, nonattainment, or unclassifiable. Areas that do not exceed the NAAQS are designated as attainment, while areas that exceed the standards are designated as non-attainment.

The lower portion of the Project Area is located within the Utah Valley Airshed, which has two major air pollutants of concern: Particulate Matter 10 (PM_{10}) and Particulate Matter 2.5 ($PM_{2.5}$). Therefore, the Project outside of the canyon is designated by the EPA as a non-attainment area for both PM_{10} and $PM_{2.5}$ (UDEQ Areas Designations 2018).

3.3.7.1 No Action

The No Action Alternative would have no new effect on health, safety, air quality, or noise. Current public safety risks of open ditches/canals that could result in accidental drowning would continue.

3.3.7.2 Proposed Action

The Proposed Action Alternative may have minor short-term effects during construction. Noise levels within the Project Area would temporarily increase during pipeline construction due to heavy equipment and truck traffic. Temporary and localized impacts to air quality could occur during construction of the Project. Fugitive dust has the potential to increase during pipeline construction; however, dust suppressant measures would be used to help minimize the increased short-term impacts. The selected contractor would prepare and follow a dust control plan.

Pressurized pipelines do not pose a threat to public safety. Every pipe has a pressure class rating with a built-in factor of safety. The proposed pipeline's maximum pressures would be 30 psi. The appropriate pipe class would be selected. Pipe fittings would meet the same pressure requirements as the pipe.

Enclosing the ditch would increase public safety from the open water channel. There would be no long-term effects on health, safety, air quality, or noise.

3.3.8 Floodplains and Flood Control

Federal Emergency Management Agency (FEMA) flood zone maps were reviewed to determine if the Project Area lies within an area of potential risk. Flood zones are geographic areas that FEMA has defined, according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM), which reflects the severity or type of flooding that could occur.

The Project area is adjacent to Hobble Creek which is defined as Zone A (FEMA Flood Map Service Center). Zone A are "areas with a 1% annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones" (Definitions of FEMA Flood Zone Designations). Most of the area where the system would be installed is in Zone X. Zone X is defined as "the area determined to be outside of the 500-year flood" (Definitions of FEMA Flood Zone Designations) (See Appendix B).

The MIDC's systems have inadvertently served as a flood control facility, regularly collecting stormwater and irrigation runoff. The water collected in the ditches are then delivered through the system to Utah Lake.

The proposed pipeline would be placed directly under an existing storm water ditch just north of 400 North for approximately 1,100 feet. The existing storm water ditch conveys water from Maple Canyon into the canal distribution system

below the Project. The alignment would be open cut, the pipeline installed, and then the ditch restored to its original form to carry storm water. Historically, this ditch carried water only during rare storm events.

3.3.8.1 No Action

Under the No Action Alternative, there would be a continuation of existing land use and management. There would be no changes to the current conditions.

3.3.8.2 Proposed Action

Under the Proposed Action Alternative, the floodplain areas would remain the same. There would be no impact to floodplains. Under this condition, the floodplain is not affected.

Under the Proposed Action Alternative, the ditch just north of 400 North which conveys water from Maple Canyon into the canal distribution system below the Project would remain open to collect and carry storm water.

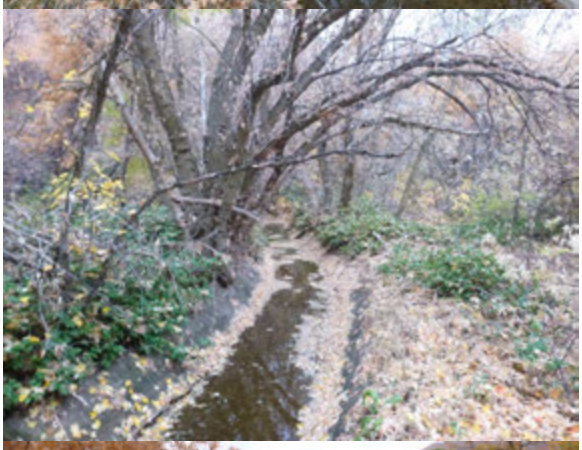
3.3.9 Wetlands, Riparian, Noxious Weeds, and Existing Vegetation

3.3.9.1 Wetlands

The CWA (Section 404), as amended in 1977 and 1987, requires wetlands to be protected. In a Memorandum of Understanding between the Army Corp of Engineers and the Environmental Protection Agency, a "no-net loss" policy was implemented requiring the Army Corp of Engineers to select the least impactful alternative on wetlands. In compliance with this objective, the National Wetlands Inventory (NWI) Mapper was used to identify wetland area within the Project area. According to the NWI, there are no wetland areas along the pipeline alignment. The soils along the pipeline alignment are well drained, have little to no flooding, do not pond well, and are therefore, not ideal for supporting wetlands.

3.3.9.2 Riparian

Riparian areas are directly influenced by water from a watercourse or water body. They typically exist along lakes, rivers, streams, and constructed water bodies such as ditches, canals, ponds, and reservoirs. As shown in the following photos, riparian areas are present along the lined ditch system including sagebrush, grasses, oak, and cottonwood trees.



3.3.9.3 Noxious Weeds

Noxious, or invasive, weeds are plants designated by a Federal, State, or County government as injurious to public health, agriculture, recreation, wildlife, or property. The weeds officially designated and published as noxious for the State of Utah, as per the authority vested in the Commissioner of Utah Department of Agriculture and Food (UDAF) under Section 4-17-3. They are designated into five classes: Class 1A – Early Detection Rapid Response (EDRR) Watch List, Class 1B – EDRR, Class 2 – Control, Class 3 – Containment, and Class 4 – Prohibited. The following weeds are officially designated and published as noxious for the State of Utah under the Class 3.

- Russian knapweed (*Centaurea repens*)
- Houndstongue (*Cynoglossum officinale*)
- Perennial pepperweed (*Lepidium latifolium*)
- Phragmites - Common reed *(Phragmites australis ssp.)*
- Tamarisk – Saltcedar *(Tamarix ramosissima)*
- Hoary cress (*Cardaria drabe*)
- Canada thistle (*Cirsium arvense*)
- Poison Hemlock (*Conium maculatum*)
- Musk thistle (*Carduus mutans*)
- Quackgrass (*Agropyron repens*)
- Jointed goatgrass *(Aegilops cylindrica)*
- Bermudagrass (*Cynodon dactylon*)
- Perennial sorghum (*Sorghum halepense*, *S. almum*)
- Johnsongrass (*Sorghum halepense*)
- Sorghum almum *(Sorghum almum)*
- Scotch thistle (*Onopordium acanthium*)
- Field bindweed (*Convolvulus arvensis*)
- Puncturevine – goathead *Tribulus terrestris)*
- Black henbane (*Hyoscyamus niger*)

The following weeds are officially designated and published as noxious for the State of Utah under the Class 4.

- Cogongrass – Japanese blood grass *(Imperata cylindrica)*
- Myrtle spurge *(Euphorbia myrsinites)*
- Dames Rocket *(Hesperis matronalis)*
- Scotch broom *(Cytisus scoparius)*
- Russian olive *(Elaeagnus angustifolia)*

Utah County has not identified any additional noxious weeds beyond the Utah list.

3.3.9.4 Existing Vegetation

Native vegetation is limited along the ditch alignment. Primary land cover type is grasses and shrubs with some cottonwoods adjacent to the existing ditch. Part of ditch maintenance in the past has included vegetation removal along the ditch by burning the vegetation in the unlined ditch and 2 to 3 feet beyond the banks. However, many large trees have not been removed and they have now encroached upon the ditch rights-of-way and account for water consumption. Along the unlined portion of the ditch, two of the landowners irrigate fields and ornamental trees. Therefore, not all the 1.5 acres supplemented by field irrigation (only about half) would be expected to be dewatered.

3.3.9.5 No Action

The No Action Alternative would have no effect on wetlands, riparian, noxious weeds, or vegetation. A continuation of existing management and land use practices would occur and would include ongoing maintenance and repair of existing facilities. There would be no change to the current conditions.

3.3.9.6 Proposed Action

All construction activities would occur in areas that have already been previously disturbed by the development of existing facilities and farming practices. There is a lack of desirable riparian vegetation along the open ditch. In some areas, the vegetation, including cottonwood trees, would likely die off. In areas supplemented by field irrigation, approximately 1.5 acres, vegetation may survive.

In order to control the spread of any noxious weeds, the following procedures would be listed in the construction specifications. Earth-moving construction equipment would be cleaned with a high-pressure water blasting method off-site prior to use on the Project. Any existing noxious weeds would be treated with commercially available herbicides at least 10 days before starting earthwork operations to control the identified weed species. The disturbed area would be reconstructed by using native topsoil, native seeds collected from grubbing, and replacing organic matter.

3.3.10 Fish and Wildlife Resources

3.3.10.1 Fish

Hobble Creek is a small stream which supports a resident population of brown trout (*Salmo trutta*). It used to be consistently stocked with rainbow trout (Oncorhynchus mykiss) by the Utah Division of Wildlife Resources (DWR) until 2011. No fish were stocked in 2012 and the last fish stocking report was on April 1, 2013, which consisted of 630 rainbow trout. http://www.utahfishinginfo.com/dwr/2013fishstockingreport.php. The Project ditch does not support any fish populations due to lack of suitable habitat.

3.3.10.2 Small Mammals

Small mammals are inherently part of rural, small canyon, and agricultural areas. It is presumed that several common species are present along the ditch corridor where suitable habitats persist, such as raccoons *(Procyon lotor)*, American beaver *(Castor canadensis)*, and numerous other small mammals. The historical agricultural and urban uses, the habitat structure has been altered impacting the abundance and diversity of wildlife species (Utah Reclamation Mitigation and Conservation Commission, 2013).

3.3.10.3 Raptors

Raptors, species such as the bald eagle, ferruginous hawk, and northern goshawk, maybe present and are typically part of a forested area. In addition to their diet of fish, reptiles, and amphibians, a large portion of a raptor's diet includes small mammals that live in the open grasslands and agricultural lands. Features in the surrounding area such as fence lines, power lines, and lakes may provide perches and temporary foraging areas for raptors and other avian species.

3.3.10.4 Big Game

The Project area and adjacent lands outside the canyon support a winter habitat for mule deer (*Odocoileus hemionus*) and Rocky Mountain elk (*Cervus canadensis nelsoni*). South and west-facing slopes at lower elevations are important wintering areas for these ungulate species. During the winter, elk and mule deer are usually found in lower to mid-elevation habitats. During the summer, most mule deer habitats are located at higher elevations generally found in the forest areas east of the Project area.

3.3.10.5 No Action

The No Action Alternative represents a continuation of existing management and land use practices. There would be no new impacts to wildlife within the Project area.

3.3.10.6 Proposed Action

Under the Proposed Action Alternative, there would be no major long-term negative effects to wildlife. Construction activities would occur in or adjacent to areas that were previously disturbed by the ditch construction and lining, agricultural development, homes, gun ranges, roadways, and periodic maintenance; specifically burning the 1,200 feet of unlined ditch to remove overgrown vegetation. The Project would have a short-term construction period, from the late fall through early spring, thereby reducing any time-related impacts. There would be minimal ground disturbance of about 1.5 acres, of which 0.75 acres were previously disturbed due to O&M.

Effects to fish, small mammals, reptiles, and big game would be minimal. Wildlife disturbance would be localized, temporary, and minimal due to the linear and fast-moving nature of the construction activities. The riparian vegetation along and downgradient of the Hobble Creek Ditch represents a small percentage of the overall habitat available in the vicinity and similar habitats occur nearby.

Revegetation in spring and early summer at that elevation and location would likely occur rapidly, which would minimize the disruption of habitat use by wildlife. The Project would remove the open ditch as a readily-accessible water source, which would cause any wildlife habituated to the ditch water to utilize other nearby water sources, such as Hobble Creek. Effects to wildlife would be isolated and not contribute to declines in local population levels as they would adjust to the changes. The Proposed Action would decrease the frequency of maintenance along the ditch which would decrease long-term disturbances to wildlife.

Seasonal migrations of wildlife may be affected by Project construction. This would be temporary, and wildlife would be able to use adjacent lands during this time. Temporary effects would be minimized by restricting construction activities to avoid sensitive breeding or nesting seasons.

Displacement or harassment of migratory birds, including raptors would be unlikely since the construction season would occur during the late fall, winter, and early spring, which is both after and prior to the times when birds are actively breeding in the area.

Furthermore, the Project would ensure compliance with the Migratory Bird Treaty Act. If construction activities occurred in the late spring/early summer or any time active breeding, nesting, or pre-fledging behavioral activities occur, MIDC would adhere to the U.S. Fish and Wildlife Service (USFWS) Utah Raptor Guidelines, placing appropriate buffers on nests until fledging activities concluded. If nests of migratory birds are located during the construction process, a Reclamation biologist would be consulted, and an appropriate buffer would be put in place. While some trees that have encroached adjacent to the ditch would be removed, removal of trees would be avoided where possible.

3.3.11 Threatened, Endangered, and Sensitive Species

Federal agencies are required under the Endangered Species Act (ESA) of 1973, 16 USC 1531, to ensure that any action federally authorized, funded, or carried out, does not jeopardize the continued existence of threatened or endangered species, or modify their critical habitat.

The USFWS's Information for Planning and Consultation (IPaC), an online listed species occurrence database, was accessed on October 31, 2018, to identify listed species potentially occurring in the Project area. Five threatened species were identified as being potentially affected by the Proposed Action. Table 3-3 lists the species along with habitat requirements and potential impact determination.

Table 3-3
ESA Listed Species Potentially Found in Project Area*

Species (common and scientific name)	Status	Habitat Description	Suitable Habitat in Project Area	Project Impact Determination
Birds				
Yellow-billed cuckoo *(Coccyzus americanus)*	Threatened	Riparian areas with dense willows combined with mature cottonwoods. Also known to use wooded parks, cemeteries, tree islands, Great Basin Shrub-steppe, and high elevation willow thickets	There is a small patch, about 1.5 acres, of suitable habitat in the Project area. Species need larger habitat areas.	No effect Project location in periphery of canyon, timing of construction, and lack of size of suitable habitat.
Fishes				
June sucker *(Chasmistes liorus)*	Endangered	Riverine and riparian habitats; meandering channels with pools	No. There is no suitable habitat in the Project area.	No effect
Flowering Plants				
Jones Cycladenia *(Cycladenia humilis var. jonesii)*	Threatened	Plant communities of mixed desertscrub, juniper, wild buckwheat, or Mormon tea	No. There is no suitable habitat in the Project area. They occur in southern Utah	No effect
Ute ladies'-tresses *(Spiranthes diluvialis)*	Threatened	Undisturbed riparian areas and wetland habitats; only in moist to very wet meadows near springs, lakes, relict meanders, and perennial streams	No. There is no suitable habitat in the Project area.	No effect
Mammals				
Canada lynx *(Lynx canadensis)*	Threatened	Isolated spruce, fir, and lodgepole pine forests, typically in areas with high prey populations, especially snowshoe hare	No. There is no suitable habitat in the Project area.	No effect

*U.S. Fish & Wildlife Service (2018, October 31)

The Project area is out of the species range and does not have a habitat to support the Canada lynx, and the Jones Cycladenia. While there is a small area of suitable habitat for the Yellow-billed cuckoo, the Project would have no effect on the species due to the Project's location in the periphery of the canyon, and the timing of construction, which is after the breeding and fledging seasons. Additionally, it has been documented that the Yellow-billed cuckoo were absent from forest fragments smaller than 7.5 ha (18.5 acres) (Bancroft, T, 1995). There would be no effect due to the small patch, approximately 1.5 acres, of suitable riparian habitat that could be impacted by the Project.

Reclamation determined that a survey for the Ute ladies'-tresses (ULT) is not required as the Project is out of their distribution range and Hobble Creek is not connected to a population source.

The June sucker *(Chasmistes liorus)* is a fish endemic to Utah Lake and is listed as an endangered species with a critical habitat. The June sucker Recovery Implementation Program, a restoration project for the June sucker, is located approximately 4 miles downstream of the Project, towards Utah Lake. Its purpose is to enhance and provide a suitable spawning and rearing habitat in Hobble Creek between I-15 and 400 West in Springville to be a more naturally functioning stream channel, floodplain, and riparian wetland ecosystem.

3.3.11.1 State Sensitive Species

The State Sensitive Species List contains species that are considered "Wildlife Species of Concern," which means there are threats to their populations. These species are identified for conservation actions which would preclude the need for their listing under the ESA. There is no statutory protection from the Federal or State government. The following species were identified through an information request from the DNR's Utah Natural Heritage Program. The results were obtained on November 14, 2018, from a database managed by the DWR. The results are based on data that exists in the DWR central database.

There are recent records of occurrences of the northern goshawk within a ½-mile radius of the Project area. The proposed Project area does not have a suitable habitat for the northern goshawk which includes water, swamps, remote, mature, closed-canopy forests with an open understory. Goshawks prefer to nest farther away from areas of human habitation. The Project area is outside the connectivity of high value habitat *(The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations).*

In addition, within a 2-mile radius, there are recent records of occurrences of the June sucker fish and the Townsend's big-eared bat. Although DWR has historical records of occurrence for the western Yellow-billed cuckoo, the small area of suitable habitat within the Project area, Project location in the periphery of the canyon, and the timing of construction, would not affect this species as previously mentioned.

3.3.11.2 No Action

Under the No Action Alternative, there would be a continuation of existing management and land use practices. There would be no direct or indirect effects to threatened, endangered, and sensitive species or critical habitat because there would be no construction-related activities.

3.3.11.3 Proposed Action

Under the Proposed Action Alternative, there would be no effect to federally listed species during or after construction because the species are not present along the Project alignment. There would be no effect to any potential Yellow-billed cuckoo due to the Project's short-term construction period, which is after breeding and fledging seasons, the Project's location in the periphery of the canyon, and minimal ground disturbance. Additionally, it has been documented that the Yellow-billed cuckoo were absent from forest fragments smaller than 7.5 ha (18.5 acres) (Bancroft, T, 1995). The proposed Project impacts less than 1.5 acres of suitable habitat and existing roadways and maintenance routes would be used where available to reduce disruption of habitat. The revegetation in spring and early summer would likely occur rapidly which would minimize the disruption of the habitat. While some trees that have encroached adjacent to the ditch would be removed, removal of trees would be avoided where possible. In some areas along the alignment, the trees would likely die off due to lack of seepage.

3.3.12 Recreation

Hobble Creek Canyon is used by locals for recreational uses such as hunting, fishing, shooting, camping, golfing, biking, picnicking, photography, and in the winter months for sports such as cross-country skiing, snowshoeing, and tubing. The canyon is divided into a main stem and two forks: the Left Fork and the Right Fork. The Right Fork lies mostly within the Uinta National Forest and is used fairly heavily by recreationists during the summer months but is less utilized during the colder winter months. Hobble Creek offers small stream fishing for brown trout and the occasional stocked rainbow trout, which hasn't been done for several years. Early season fishing can also be done at the Hobble Creek Catch Basin, located approximately a half mile from the mouth of the canyon. It is drained in midsummer for irrigation water use.

Hobble Creek Catch Basin when full

Hobble Creek Parkway Trail is a paved trail used by walkers and bikers. It begins at the mouth of the canyon and travels three miles up to Rotary Park. It follows Hobble Creek, passing the catch basin and running over some small bridges. Hobble Creek Golf Course is a destination golf course for many golfers.

There are three picnic/campground areas maintained by Springville City, including Rotary Park, Kelly's Grove, and Jolley's Ranch. Other campgrounds include Cherry Campground and Balsam Campground, which are located along the right fork. Lastly, there are dirt trails which provide recreation to mountain bikers, dirt bikers, and 4-wheel drive vehicles. These same trails provide cross-country skiing and snow shoeing in the winter months.

3.3.12.1 No Action

Under the No Action Alternative, there would be no changes to the recreation of Hobble Creek Canyon.

3.3.12.2 Proposed Action

Under the Proposed Action Alternative, there would be no effect to the recreation in the canyon. The recreation areas are located outside of the construction area. The area currently encounters frequent noise pollution due to the shooting range located between the recreation area and construction area. Construction noise would be minimized.

3.3.13 Socioeconomics

Mapleton and Springville are located at the mouth of Hobble Creek Canyon with Mapleton to the south and Springville to the west. The population of Mapleton and Springville was 7,979 and 29,232 respectively in the 2010 census (United States Census Bureau). Both are rapidly growing and in 2016, the populations grew to 9,014 and 31,796 respectively. The estimated median adjusted gross

income (MAGI) in 2017 was $69,131 and $45,851 for Mapleton and Springville, respectively. The state's MAGI is $45,895. Mapleton is 89.7 percent white, with the next highest being Hispanic at 6.96 percent. Springville is 81.2 percent white, with the next highest being Hispanic at 14 percent.

3.3.13.1 No Action

Under the No Action Alternative, there would be no changes to the socioeconomics of the community.

3.3.13.2 Proposed Action

Under the Proposed Action Alternative, there would be an increase in crop production for the MIDC shareholders due to increased water supplies and efficiency. It would help to stabilize the economics and sustainability of the farming and ranching community by providing improved irrigation efficiency and by extension, improved crop production.

There would also be a temporary increase in available jobs since most of the construction would take place in the fall and during the winter, thus, allowing the selected construction contractor to avoid typical winter employment layoffs commonly experienced in Utah Valley. Shareholder assessments may increase depending on the level of financial support from local developers, Mapleton City, and Utah County. The MIDC board members are diligently working to keep shareholder costs as low as possible. Operation and maintenance costs, borne by the MIDC, would be reduced.

Safety would be improved by eliminating the open ditch adjacent to the community along the alignment. There would be no subsequent changes to the land uses., thereby creating no other effects to the socioeconomics of the community.

3.3.14 Access and Transportation

The Project area is located east of I-15 in southern Utah County. Exit at 400 South and go east for about 2 miles to the round-about then take Canyon Road to Hobble Creek Canyon. During construction, most of the vehicle trips would be for transporting construction materials. The contractor would be transporting heavy construction equipment at the beginning and end of the Project. The staging areas, identified in Figure 2-2, would be used to store equipment and supplies.

3.3.14.1 No Action

The No Action Alternative would have no impact on access and transportation as no changes would occur.

3.3.14.2 Proposed Action

The Proposed Action Alternative would have minor short-term effects during construction. At Quiet Meadow Lane, the road would be used to access the area needed for both preparing the pipe and slip-lining it through the existing 30-inch

RCP beneath Quiet Meadow Lane. It is not anticipated that road access or condition would be impaired during this process. In the unlikely event that the road is damaged, the contractor would be responsible for repairing any road damage to the existing conditions. There would be no long-term effects on access and transportation.

3.3.15 Water Rights

The MIDC was formed in 1914 to provide irrigation water to residents in Mapleton City within an area of approximately 3,000 acres. MIDC receives a portion of its water from Maple Creek and Hobble Creek. MIDC also receives water from the Strawberry Reservoir via the Strawberry Valley Project. Water from the reservoir is delivered through the Springville Mapleton Lateral via 36-inch and
54-inch HDPE pipes. There are also many small water rights from various wells and springs.

Residential growth in this area has resulted in farms and irrigable land being converted to subdivisions and developments. The MIDC has worked with developers and Mapleton City to alter the delivery system to allow for growth while continuing to deliver water to its shareholders.

The MIDC has many water rights to deliver water to its shareholders, however, because this Project only diverts water from Hobble Creek, the application would only include the water rights found in Hobble Creek. The water rights from Hobble Creek are shown in Table 3-4. Water is diverted from the creek into the Hobble Creek Ditch and conveyed to users within the area of use. According to the Utah Division of Water Rights (DWRi) the area of use is approximately 3,000 acres.

Table 3-4
MIDC Water Rights from Hobble Creek

Water Right	Type	Priority	Quantity/Flow	Source
51-5218	Water User's Claim	1851	42.5 cfs / 12267.13 ac-ft	Hobble Creek
51-5601	Water User's Claim	1852	22.1 cfs	Hobble Creek
51-5602	Water User's Claim	1853	34.7 cfs	Hobble Creek

3.3.15.1 No Action

The No Action Alternative would have no effect on water rights.

3.3.15.2 Proposed Action

Under the Proposed Action Alternative, there would be no changes to the allowed beneficial uses or place of use for the MIDC water rights. There would also be no

changes to the existing points of diversion. However, the Proposed Action would allow the MIDC to maximize the amount of water applied to crops due to the elimination of evaporative and seepage related losses incurred by conveying water via the ditch.

3.4 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests pertaining to property held in trust by the United States for federally recognized Indian Tribes or Indian individuals. The policy of the Department of the Interior is to recognize and fulfill its legal obligations to identify, protect, and conserve the trust resources of federally recognized Indian tribes and tribal members, and to consult with tribes on a government-to-government basis whenever plans or actions affect tribal trust resources, trust assets, or tribal safety (see Departmental Manual, 512 DM 2). Assets can be real property, physical assets, or intangible property rights, such as lands, minerals, hunting and fishing rights, and water rights.

The United States has an Indian Trust responsibility to protect and maintain rights reserved by or granted to such tribes or individuals by treaties, statutes, and executive orders. These rights are sometimes further interpreted through court decisions and regulations. This Trust responsibility requires that all federal agencies take all actions reasonably necessary to protect Trust Assets. Reclamation carries out its activities in a manner which protects these assets and avoids adverse impacts to the extent practicable. When impacts cannot be avoided, Reclamation would provide appropriate mitigation or compensation. Implementation of the No Action or Proposed Action would have no foreseeable negative impacts on Indian Trust Assets. Inquiries about ITAs concerns were included in the cultural consultation letters for the Project that were sent out to the Ute Indian Tribe of the Uintah and Ouray Reservation and the Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho on March 8, 2019. No ITAs concerns have been identified by the Tribes to date.

3.5 Environmental Justice

Executive Order, 12898, established Environmental Justice as a federal agency priority to ensure that minority and low-income groups are not disproportionately affected by federal actions. Implementation of the Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the Project area as it 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 and low-income populations.

3.6 Cumulative Effects

In addition to Project-specific impacts, Reclamation has 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 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 may result from individually minor but collectively significant actions taking place over a period. The regulation focuses on whether the Proposed Action, considered together with any known or reasonably foreseeable actions by Reclamation, other federal or state agencies, or some other entity, combined to cause an effect. There is no defined area for potential cumulative effects.

Cumulative effects for this Project may include maintenance and repair activities on the new system, including the pipeline, turnouts, pond, and appurtenances. These new structures would be installed on existing disturbed areas. Also, existing grazing and agricultural practices would be expected to continue indefinitely. It is not anticipated that any of these activities would increase the potential for prospective land development as the Proposed Action would not culminate in increased production that would result in expansion of current agricultural practices into new areas not currently serviced by the MIDC.

Consequently, all effects are considered temporary in nature and would therefore be expected to end shortly after construction completion. Therefore, based on the resource specialists' review of the Proposed Action, Reclamation has determined that this action would not have a significant adverse cumulative effect on any resources.

3.7 Summary of Environmental Effects

Table 3-5 summarizes environmental effects under the No Action and the Proposed Action Alternatives.

Table 3-5
Summary of Environmental Effects

Project Resource	No Action	Proposed Action
Geology and Soils Resources	No Effect	Minor Temporary Effect
Visual Resource	No Effect	Minor Temporary Effect
Cultural Resources	No Effect	No Effect
Hydrology	No Effect	No Effect
Water Quality	No Effect	Minor Effect
System Operations	No Effect	No Effect
Health, Safety, Air Quality, and Noise	No Effect	Minor Temporary Effect
Floodplains and Flood Control	No Effect	No Effect
Wetland, Riparian, Noxious Weeds, and Existing Vegetation	No Effect	Minor Effect
Fish and Wildlife Resources	No Effect	Minor Temporary Effect
Threatened and Endangered Species, Sensitive Species	No Effect	No Effect
Recreation	No Effect	No Effect
Socioeconomics	No Effect	No Effect
Access and Transportation	No Effect	Minor Temporary Effect
Water Rights	No Effect	No Effect
Indian Trust Assets	No Effect	No Effect
Environmental Justice	No Effect	No Effect
Cumulative Effects	No Effect	No Effect

Chapter 4 Environmental Commitments

Environmental Commitments, along with Minimization Measures in Section 2.6 of this report 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 Best Management Practices** - Standard Reclamation Best Management Practices (BMP) will be applied during construction activities to minimize environmental effects and will be implemented by construction forces or included in construction specifications. Such practices or specifications include sections in the present EA on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, fish and wildlife and threatened and endangered species. Excavated material and construction debris may not be wasted in any stream or river channel in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be disposed of at a Reclamation approved upland site well away from any channel. Construction materials, bedding material, excavation material, etc. may not be stockpiled in riparian, wetland, 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. **Construction Restrictions** - Construction and staging activities would be confined to previously disturbed areas, to the extent practicable.

4. **Public Access** - Construction sites would be closed to public access. The MIDC would coordinate with contractor's personnel, as necessary, to ensure public safety.

5. **UPDES Permit** - A UPDES Permit would be required from the State of Utah before any discharges of water, if such water is to be discharged, as a point source into a regulated water body. Appropriate measures would be taken to ensure that construction related sediments would not enter the stream either during or after construction. Settlement ponds and intercepting ditches for capturing sediments would be constructed and the sediment and other contents collected would be hauled off the site for appropriate disposal upon completion of the Project.

6. **Air Quality** - BMP would be followed to mitigate for temporary impact on air quality due to construction related activities. These may include the application of dust suppressants and watering to control fugitive dust, minimizing the extent of disturbed surfaces during times of high wind, restricting earthwork activities, and limiting the use of, and traveling speeds on, unimproved road surfaces.

7. **Cultural Resources** - If any cultural resources other than those previously identified in this document are discovered on the surface or below the surface during Project 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 as well as recommendations for further work can be made by a professional archeologist.

8. **Human Remains** - Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on federal land or during the course of implementation of a Project that uses Reclamation-issued federal funds, he/she must provide immediate telephone notification of the discovery to Reclamation's Provo Area Office archaeologist. Work will stop until the proper authorities are able to assess the situation onsite. This action will promptly be followed by written confirmation to the responsible federal agency official, with respect to federal lands. The Utah SHPO and interested Native American Tribal representatives will be promptly notified. Consultation will begin immediately. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (43 CFR Part 10) and the Archaeological Resources Protection Act of 1979 (16 USC 470).

9. **Paleontological Resources** - Should vertebrate fossils be encountered by the proponent during ground disturbing actions, construction would be suspended until a qualified paleontologist can be contacted to assess the find.

10. **Invasive Species** - Appropriate steps would be taken to prevent the spread of, and to otherwise control, undesirable plants and animals within areas affected by construction activities. Equipment used for the Project would be inspected for reproductive and vegetative parts, foreign soil, mud or other debris that may cause the spread of weeds, invasive species and other pests. Such material would be removed before moving vehicles and equipment. Upon the completion of work decontamination would be performed within the work area before the vehicle and/or equipment are removed from the Project site.

    The MIDC would make periodic inspections following vegetation of disturbed areas to locate and control populations of noxious weeds if present. All seed used for restoration would be certified "noxious weed free" before use. If needed, the County Weed Control Department could be contacted to provide services to control the spread of noxious weeds.

11. **Vegetation** - Design and treatment activities would ensure that vegetation would be protected with no long-term adverse effects. Staging areas would remain in previously disturbed areas to the extent practicable.

12. **Raptor Guidelines** - The MIDC would adhere to the USFWS's Raptor Guidelines by placing seasonal and spatial "no construction" buffers, along with daily timing restrictions around all active raptor nests or winter roosting bald eagles. If unknown nests were located during construction, the same guidelines would be implemented.

13. **Previously Disturbed Areas** - Construction and staging activities will be confined to previously disturbed areas wherever possible for such activities as work, staging and storage, waste areas, and vehicle and equipment parking areas. Vegetation disturbance will be minimized as much as possible.

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

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 each of these entities in the planning process. The NEPA requires full disclosure concerning major actions taken by federal agencies and accompanying alternatives, impacts, and the potential mitigation of impacts.

5.2 Public Involvement

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

A letter was sent to interested agencies, key stakeholders, and MIDC shareholders notifying them of the availability of the draft EA. Two sets of comments were received during the comment period. The comments and responses are included in Appendix A. Comments were also placed in the Project administrative record and are available for public review.

5.3 Native American Consultation (Required)

Reclamation conducted Native American consultation throughout the public involvement process. Tribal consultation letters for the Draft EA have been sent out to the Ute Indian Tribe of the Uintah and Ouray Reservation and the Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho. A cultural resources consultation letter with a determination of No Historic Properties Affected and a copy of the Class III Cultural Resources Inventory Report were sent to the above Tribes on March 8, 2019. All consultation was conducted in compliance with 36 CFR 800.2(c)(2) on a government-to-government basis. Through this effort, each Tribe was given a reasonable opportunity to identify any concerns about historic properties; to advise on the identification and evaluation

of ITAs and 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. The Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho replied in a letter dated March 18, 2019 and deferred to local tribes of Utah for comment. Reclamation has received no other comments from tribes to date.

5.4 Utah Geological Survey (Required)

The Utah Geological Survey provided a file search letter on January 31, 2019. The assistant to the State Paleontologist reviewed the Project area and determined that there are no paleontological localities recorded and that the area has a low probability for paleontological resources.

5.5 Utah State Historic Preservation Office (Required)

Copies of the Class III Cultural Resource Inventory Reports and determinations of No Historic Properties Affected for the Proposed Action were submitted to the SHPO on March 7, 2019 and October 3, 2019. The SHPO concurred with Reclamation's initial determination on March 8, 2019 and concurred with the addendum determination on October 4, 2019.

5.6 U.S. Fish and Wildlife Service

The USFWS was contacted on October 31, 2018, and an IPaC report was obtained.

Chapter 6 Preparers

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

Table 6-1
Environmental Summary Preparers

Name	Title	Company
Jon Baxter	Archeologist	Bighorn Archeological Consultants, LLC
Barry Prettyman	Project Manager	Franson Civil Engineers, Inc.
Monique Robbins	Senior Engineer, Writing, Editing	Franson Civil Engineers, Inc.

Table 6-2
Reclamation Team Members

Name	Title	Resource
Rick Baxter	Water, Environmental, and Lands Division Manager	Document Oversight
Peter Crookston	Environmental Group Chief, Reclamation Provo Area Office	NEPA Oversight
Preston Feltrop	Fish and Wildlife Biologist, Reclamation Provo Area Office	Biological Resources
Dale Hamilton	Resource Management Division Manager	Health, Safety, Air Quality, and Noise
John Mann	Reclamation Provo Area Office	Water Rights
Linda Morrey	Secretary	Writing, Editing
Carley Smith	Archaeologist, Reclamation Provo Area Office	Cultural Resources, Paleontological Resources, Indian Trust Assets
Darrick Whipple	Economist, Reclamation Provo Area Office	Socioeconomics

Table 6-3
Federal, State or District Members

Name	Title	Company
Martha Hayden	Assistant State Paleontologist	Utah Geological Survey
Sarah Lindsey	Senior GIS Analysist	Utah Division of Wildlife Resources
Mike Miner	President	Mapleton Irrigation District & Company

Chapter 7 Acronyms and Abbreviations

Acronym/Abbreviations	Meaning
APE	Area of Potential Effect
BIA	Bureau of Indian Affairs
BMP	Standard Reclamation Best Management Practices
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
CUWCD	Central Utah Water Conservancy District
CWA	Clean Water Act
DEQ	State of Utah Department of Environmental Quality
DNR	Department of Natural Resources
DWR	State of Utah Division of Wildlife Resources
DWRi	State of Utah Division of Water Rights
EA	Environmental Assessment
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FOTG	Field Office Technical Guide
IPaC ITAs	Information for Planning and Consultation Indian Trust Assets
MAGI	Mean Adjusted Gross Income
MBTA	Migratory Bird Treaty Act
MIDC	Mapleton Irrigation District & Company
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
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
O&M PM_{10} $PM_{2.5}$	Operation and Maintenance Particulate Matter 10 Particulate Matter 2.5
PVC	Polyvinyl Chloride
Reclamation	U.S. Bureau of Reclamation
SHPO	Utah State Historic Preservation Office
SOP	Standard Operating Procedures
SVP	Strawberry Valley Project

Acronym/Abbreviations	Meaning
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UAC UDAF	Utah Administrative Code Utah Department of Agriculture and Food
UMUTCD	Utah Manual of Uniform Traffic Control Devices
UPDES	Utah Pollutant Discharge Elimination System
USFWS	U.S. Fish and Wildlife Service
USC	United States Code
ULT	Ute ladies'-tresses

Chapter 8 References

Bancroft, G. Thomas, Allan M. Strong, and Mary Carrington, 1995. Deforestation and Its Effects on Forest-Nesting Birds in the Florida Keys https://www.jstor.org/stable/2386993?seq=1#page_scan_tab_contents

Baxter, Jon R., 2018. A Cultural Resource Inventory for the Hobble Creek Pipeline Project, Utah County, Utah. Bighorn Archaeological Consultants, L.L.C. Orem, Utah. Report Number 18-47.

2019. Addendum to the Hobble Creek Pipeline Project, Utah County, Utah. Bighorn Archaeological Consultants, L.L.C. Orem, Utah.

DataUSA. https://datausa.io/profile/geo/springville-ut/?compare=mapleton-ut

Federal Emergency Management Agency, Definitions of FEMA Flood Zone Designations. http://snmapmod.snco.us/fmm/document/fema-flood-zone-definitions.pdf

Federal Emergency Management Agency, Flood Map Service Center. Utah County: Mapleton, Utah. https://msc.fema.gov/portal/search?AddressQuery=Mapleton%2C%20ut#searchresultsanchor

Stamp, Melissa, Thomas Eddie, and Darren Olsen. April 2009. Lower Hobble Creek Ecosystem Flow Recommendations. Bio-West, Inc, Logan, Utah.

United States Department of Agriculture. Web Soil Survey. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Department of Agriculture. Rocky Mountain Research Station. *The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations, February 1999. https://www.fs.fed.us/rm/pubs/rmrs_gtr022.pdf*

Utah Reclamation Mitigation and Conservation Commission. *East Hobble Creek Restoration Project, Final Environmental Assessment.* (April 2013). https://www.mitigationcommission.gov/native/pdf/east-hobble-creek-ea-fonsi_4-2013.pdf

Utah Department of Environmental Quality, Interactive Map http://enviro.deq.utah.gov/

Utah Department of Environmental Quality, Area Designations: $PM_{2.5}$ State Implementation Plan Development, Utah Nonattainment Map, https://deq.utah.gov/legacy/pollutants/p/particulate-matter/pm25/areas.htm

Utah Division of Water Quality, Prioritizing Utah's 303(D) List (11/23/2016). https://deq.utah.gov/legacy/programs/water-quality/watersheds/docs/2016/303d-list-for%20tmdl-development.pdf

Utah Geological Survey, 2008. *Interim Geologic Map of the southwest (Utah Valley) Part of the Springville Quadrangle, Utah County, Utah.* Barry J. Solomon and Michael N. Machette. Open-file Report 524. https://ugspub.nr.utah.gov/publications/open_file_reports/ofr-524.pdf

Utah Office of Administrative Rules, Utah Administrative Code: Rule R68-9. Utah Noxious Weed Act. https://rules.utah.gov/publicat/code/r068/r068-009.htm

Utah Office of Administrative Rules, Utah Administrative Code: Rule R317-2-13. Classification of Waters of the State. https://rules.utah.gov/publicat/code/r317/r317-002.htm#T15

Utah Wildlife Action Plan Joint Team. 2015. Utah Wildlife Action Plan: A plan for managing native wildlife species and their habitats to help prevent listing under the Endangered Species Act. Publication number 15-14. Utah Division of Wildlife Resources, Salt Lake City, Utah, USA.

U.S. Census 2010, Utah: 2010 Population and Housing Unit Counties. Issued July 2012. https://www.census.gov/prod/cen2010/cph-2-46.pdf

U.S. Department of Agriculture Natural Resources Conservation Service. Cache County Resource Assessment. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ut/technical/dma/nri/?cid=nrcs141p2_034130

U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

U.S. Department of Agriculture Soil Conservation Service and Forest Service in cooperation with Utah Agricultural Experiment Station, 1974. Soil Survey of Cache Valley Area, Utah Parts of Cache and Box Elder Counties.

U.S. Environmental Protection Agency. NAAQS Table. https://www.epa.gov/criteria-air-pollutants/naaqs-table

U.S. Fish & Wildlife Service, National Wetlands Inventory: Wetlands Mapper. https://www.fws.gov/wetlands/Data/Mapper.html

U.S. Fish & Wildlife Service, Endangered Species Act of 1973 (16 USC 1531-1544, 87 Stat.884). https://www.fws.gov/laws/lawsdigest/ESACT.HTML

Chapter 9 Appendices

Appendix A - Public Comments and Responses

Monique Robbins

From: Vince Hogge
Sent: Tuesday, July 16, 2019 11:38 AM
To: Feltrop, Preston; Mike Mittanck
Cc: Monique Robbins; mike miner; claynewaterman62@gmail.com
Subject: RE: [EXTERNAL] Hobble Creek Piping Proj

Mike,

As part of the piping of the project, the lateral turnouts will all be modified. Additional pressure will be supplied by the new pipeline. There is a screen structure at the head of the main pipeline where it diverts out of Hobble Creek. The screen will be a traveling screen and will be self-cleaning. It will remove moss, leaves, and other debris from the water before it enters the pipeline. The pipeline will be completely enclosed from that point so additional debris will not enter the ditch along the alignment as it has done in the past. Because the pipe is enclosed, moss will not grow in the system as it has done in the past. We cannot guarantee that you will never have a clogged sprinkler head, but we anticipate the water quality will be better than it was in the open ditch system.

Thanks,

FRANSON CIVIL ENGINEERS
Vince Hogge | P.E.
1276 South 820 East, Suite 100 | American Fork, Utah 84003
T: 801.756.0309 | F: 801.756.0481 | vhogge@fransoncivil.com
Licensed in the State of Utah

From: Feltrop, Preston <pfeltrop@usbr.gov>
Sent: Monday, July 15, 2019 8:36 AM
To: Mike Mittanck <mmittanck@comcast.net>
Cc: Monique Robbins <mrobbins@fransoncivil.com>; Vince Hogge <vhogge@fransoncivil.com>
Subject: Re: [EXTERNAL] Hobble Creek Piping Proj

Hi Mike,

I have cc'ed the engineers for the project on this email. Hopefully, they will be able to provide you an answer promptly.

Thank you,

--
Preston Feltrop
Fish and Wildlife Biologist
U.S. Bureau of Reclamation

Provo Area Office
Water, Environmental, and Lands Division
302 East 1860 South
Provo, UT 84606-7317
Phone: (801)379-1064
Fax: (801)379-1159

On Sun, Jul 14, 2019 at 6:43 PM Mike Mittanck <mmittanck@comcast.net> wrote:

> Mr. Feltrop,
>
> I live in Quiet Meadow Estates, Mapleton. We receive our irrigation water via 10" pipe that takes off from the Hobble Creek ditch up above us. I was unable to attend the meeting in Mapleton this last Thursday. Can you tell me how our pipe and weir box will be effected by the project. I am told by the water master that a meter will be installed on our 10" feed pipe. So I assume we will lose the weir box and the filter screen in it. I am concerned about how our water will be screened to keep the debris, moss and leaves out of our pipe. We all use sprinklers so any trash much larger than 1/16" will clog up our nozzles. I assume there will be an increase in pressure in our line which will be welcomed by all. But we are concerned about not losing the water quality that we have.
>
> I will appreciate your response.
>
> Mike Mittanck
>
> 1664 N 1770 E
>
> Mapleton
>
> 385-254-8029

Mr. Preston Feltrop
Bureau of Reclamation
302 East 1860 South
Provo, Utah 84606
801-379-1081

25 July 2019

Dear Mr. Feltrop,

Thank you for your interest in answering my questions regarding the **Hobble Creek Piping Project.** For brevity I will refer to Contents pages and Chapter subheadings of the "Environmental Assessment" volume of June 2019 which your office sent me.

Pages 1 & 2: 1.2 MIDC and Mapleton City plan to alter the system for growth while still delivering to share holders...

What does this mean? Do they intend to sell water to the city or individual new residences? How do shareholders benefit? How are shareholder costs increased?

Page 2: 1.2 about 33% of diverted water lost to seepage; 1,685 acre feet/year saved.

Yet on page 8 it notes the project is only designed to last 50 years. It seems it's now been running for over 100 years despite it's age and minimal upkeep. Where is the design vs cost/benefit ratio going? Why was this new system not designed for at least 100 years?

Page 4: 1.5 Permits and Authorizations. (See also pp. 9, 11, 13.)

Where is the accountability? Where does the buck stop? (Is it ultimately MIDC? Or BuRec.? Or?

Page ?: Not addressed in the document.

Funding: what is the source of all the funding? How will this affect individual water users? Taxpayers?

Page 7: Aerial Photo includes "Turnouts" Of the 12, one third or four appear to be immediately northeast of Quiet Meadow Lane near the mouth of Hobble Creek Canyon.

Where exactly are they? How are they accessed? Who will access them?

Page 8: 2.3.1 refererence to 50 year life expectancy

Page 8: Rights-of-Way use of existing rights-of-way including private property. See page 36 Water Rights.

Page 9: Road Crossings 2.3.6 Quiet Meadow Lane is the only one.

Will QML be used to access the 24" pipe insertion or will it come from up canyon? Slip lining apparently requires filling the space between the two pipes with grout. How many loads of grout via what size trucks? Will this be injected periodically along QML or some other way? (see p. 10 comments).

Does this refer to the entire approximate 900' marked off this spring on QML? Where and what exactly will occur here and what affect will this have on Quiet Meadow Lane and adjacent property?

Page 9: 2.3.9 Construction Schedule and Ditch Operation During Construction

Timetable approximately one year excluding the irrigation season, so some disruption over at least 1 1/2 years for the 2.6 mile pipe run.

"The MIDC's board members would work with the affected property owners to address their concerns to the extent practicable."

Who specifically? Who's definition of "practicable"? What is their contact information? Who is the on-going supervisor and what are their credentials and references?

"They will also provide access to homes and private driveways during construction."

Technically not true. The contractor will actually need to do this. So who is the responsible liason individual and what is their contact information including cell phone number(s)?

It should be noted that trucks have a massive impact on paved roads compared to cars. An ashto equals one axle load which is the equivalent of one automobile. A trash truck delivers 15,000 to 25,000 ashotos per trip to a surface. A semi truck/trailer delivers from 20,000 to 85,000 ashtos per trip over a surface. By far the greatest damage inflicted on Quiet Meadow Lane has been via the weekly trash trucks, rare semi trucks and ongoing utility cuts across the road surface. The homeowners on Quiet Meadow Lane expect some sensitivity to, avoidance of impact, and responsibility and repair or compensation for out of the ordinary impacts. We would consider any semi truck or heavy equipment transits out of the ordinary.

Page 10: 2.3.10.2 Clear, Grade and Excavate Within Pipeline Construction Corridor "...It is anticipated that the access road to the gun range would be used to access the alignment south of Hobble Creek."

Does this mean no QML heavy traffic and no heavy equipment? What about the grout issue on page 9? Hopefully the gun range road will also be restored or compensated.

"Any excess soil material would be disposed of in ways that would blend the material with adjacent lands. If there is unsuitable backfill, bedding material would be hauled to the project site and placed in the bottom of the pipeline trench."

So...this would also be hauled down the line from the gun range? Would the dump trucks back out or where would they turn around?

Page 11: 2.3.10.5 Quality Control Procedures "The contractor would ensure quality control..."

Who specifically and what is their track record? !!!

Standard Operating Procedures (SOPs)

Whose O&M Manual and SOPs? See pp. 13, 9

Page 13: 2.6 Minimization Measures Incorporated into the Proposed Action

Item 4 "The MIDC would require the contractor be resposible during construction for managing safety measures, and minimizing noise, dust, and air and water pollution."

We have had some experience with MIDC and numerous utilities and contractors. We do not trust any of them to perform in a workmanlike manner. Mr Lindley hired a company (Magic Jack? LLC, Landscaping?) about four years ago for months of work just northeast of us that broke multiple OSHA and other regulations. I will not sit back and "hope it gets better" in the face of inconsideration and incompetence again.

Where is the responsibility in writing? Where is our review/file/contact copy? Who has bonded the companies involved and for what amounts?

Page 16: 3.3.2 Visual Resources (read the note)

Older (actually any) trees cannot soon be replaced. Some may need to go. Some may not. But the man ("Tim the Toolman") behind the bulldozer, backhoe, etcetera is not the one to judge.

Page 17: 3.3.3 Cultural Resources (see the listed inclusions)

Obviously the project should not be delayed unrealistically for any minor uncovering of artifacts. However, irrigation history in Utah has been relatively neglected and any finds of original canal construction tools or equipment would be nice to preserve and record ultimately for a local museum or relic hall.

Irrigation history in Utah and the West is actually extremely significant. While Native American sites related to irrigation are modest and little known, Euro-American impacts if not sites continue to influence after 17 decades. I know of no major or minor museum or archive in the state (as of the 1990s) that has specifically collected, interpreted or educated on the subject. Imagine utilizing the natural canyon mouth alluvial fans throughout settlement, engineering laterals and small dams with pick and shovel and later fresno and horses. The achivement was remarkable.

Excavators and construction workers should avoid destroying and set aside any remnants of the original canal construction period. Property owners and perhaps local museums should treasure and interpret these remnants. They may well find a fresno part, wooden wheel hub, pick, or shovel blade. No, don't suspend or delay construction for such minor items, but do be a bit sensitive to the past that got you to the lifestyle you take for granted!

Page 18: *Where is the updated cultural resource survey located?*

Pages 22, 23: 3.3.6 System Operations

Notes use of more expensive Strawberry water (SVP) "often". ("5,000 acre-feet per year depending on water needs")

Does this project (HCPP) saving mean less dependence on SVP water? How much less? Are there cost benefits over the 50 year (should be 100 year) life of the HCPP versus use of the SVP water?

Page 23: 3.3.7 Health, Safety, Air Quality, and Noise

Noise (volume and hours of work) and Safety (worker safety) were serious issues with Mr. Lindley's contractors. What assurance do we have that any issues arising will be quickly and properly dealt with?

Page 27: 3.3.9.3 Noxious Weeds

We make a concerted effort to battle some of them. Is there a good identification sheet for the list on page 27? Thanks.

Page 35: 3.3.14 Access and Transportation

Please specifically address our concerns for the use of the quiet small paved dead end road in a neighborhood with numerous children that is Quiet Meadow Lane. Thank you.

Page 36: 3.3.15 Water Rights-of-Way

Paragraph 2 is only slightly more clear than pages 1, 2, 8. So, are we talking just trying to keep the water flowing to existing users despite suburban sprawl?

A related question: What types of Hobble Creek share certificates are extant and why? What is their current value?

Page 43: 5.2 Public Involvement

Can we really believe your first paragraph?

Page 44: Utah State Historic Preservation Office

Some SHPOs are more interested in lunch at the Rio Grande cafe than saving a National Register Historic Site. Did this one actually read the document?

Page 46: Table 6.3 Federal, State or District Members, Mike Minor President, MID&C

Contact information, resume? Will Mr. Minor be involved directly or someone else?

11 July Project Meeting at Mapleton City Hall

There seemed to be no more information available on 11 July than there was six months earlier regarding specifics of construction and accountability. There was a "delay/lawsuit" comment made while I was at the 11 July meeting that was surprising and uncalled for. I will not be intimidated by any individual, company or bureaucracy. I simply want someone to take responsibility for the project being performed in a workmanlike and amenable manner especially where it impacts my neighborhood. I have expressed a sincere willingness to smooth the way where I can on several occasions. If folks want to make it difficult all they have to do is attempt to intimidate me.

I have heard of deadlines mentioned but never seen an advance copy of any agreements or permissions papers we might be expected to sign. We should have at least 15 to 30 days to assure all the homeowners on Quiet Meadow Lane can be located and informed. In addition I am aware of no contact with the Homeowners Association or individual homeowners regarding who actually owns shares in the MID&C if this is germane to the HCPP.

Who is responsible?!!!

Thanks Mr. Feltrop for any clarificaton you can give me on the Environmental Assessment HCPP.

Sincerely,

Gary Peterson
25 Quiet Meadow Lane
Mapleton, Utah 84664
801-489-7557

100 6033
105
1060
6050
6030

Action
Project
Classificaton
Control
Folder

Notice if you detach enclosure insert code here:

Gary Peterson
25 Quiet Meadow Lane
Mapleton, UT 84664

Thank you for your comments. Please find responses per the categories below:

GROWTH: Growth is occurring rapidly along the Wasatch Front, including the Mapleton/Springville areas. This growth is impacting the canals that have historically carried irrigation water to shareholders. With this growth, the demographics of shareholders are changing from agricultural users to secondary water users, such as residences and commercial users. In order to provide for the safety of citizens and homes as well as reducing the impact that subdivisions and developments are having on the historical water conveyances, the piping of this canal is proposed. It would not only provide shareholders with a reliable source of water but would also offer safety to human life and help to prevent danger to homes from canal breach or overtopping. In addition to water savings and a more reliable water source, shareholders would benefit by the decreased number of liability and potential lawsuits due to damages occurring from the rapid growth. Additionally, shareholders would continue to be the beneficiaries of the water. Mapleton City is currently a shareholder with 848 shares of the 3,000 total shares.

The Mapleton Irrigation District and Company (MIDC) issues new certificates as shares are sold and purchased through private transactions between two parties. The MIDC is not involved in these transactions. If a landowner develops a parcel, they are often required to supply water to the city for the parcel. The landowner can also sell his shares to the city, this happens often and will continue to do so.

SHAREHOLDER ASSESSMENTS/FUNDING: Shareholder's annual assessments would increase due to the cost of the project. A grant from the USBR was obtained for $300,000 and a nearly $1 million loan was approved from the Division of Water Resources. The loan terms are to be paid over 21 years at 0% interest for a total annual payment of approximately $46,000. With 3,000 shares, this could be approximately $15-16/share per year but could be less due to MIDC's savings from previous year's assessments. MIDC board members are diligently working to keep shareholder costs as low as possible. The MIDC board is also working on securing funds from private developers, Utah County and Mapleton City which could reduce the amount shareholders pay. Additionally, operation and maintenance costs borne by the MIDC would be reduced. Canal companies have a responsibility to maintain their systems and the MIDC board feels that this is a worthwhile project, as per the reasons described above.

LIFE SPAN OF PROJECT: Piped systems such as the proposed project last longer than 50 years and are more likely to have a life expectancy of 100 years with proper operation and maintenance. However, 50 years was listed in the EA because that is what the pipe manufacturer states on its spec sheet and is also the industry-accepted life expectancy. They will not claim a life expectancy longer than this because HDPE pipe has only been in use for approximately 50 years.

ACCOUNTABILITY: MIDC has been and will always be responsible for its water systems. As such, if no action is taken, MIDC would be responsible for any liability and potential financial liability that may occur.

TURNOUTS: The turnouts were identified based on shareholders who currently have turnouts on the existing canal. The design drawings call out specifically where the turnouts are located as well as the size of each turnout. The turnouts would be directly connected to the 24-inch HDPE pipe and water would be diverted by the shareholder and measured with a meter in order to provide for accountability and water use.

RIGHTS-OF-WAY: It is not clear what the comment related to rights-of-way and water rights is asking.

ROAD CROSSINGS: MIDC would work directly with the selected contractor to determine their preferred method to accomplish the slip-lining based on their expertise. Quiet Meadow Lane would not be used by semitrucks to deliver the HDPE pipe. The existing canal alignment would be used to both deliver and prepare the pipe and for slip-lining. The sticks of HDPE pipe would be fused together upstream of the location and dragged along the alignment.

The contractor would follow UDOT loading requirements for any dump trucks that drive on Quiet Meadow Lane. The contract with the contractor would include provisions that any damage to the road would be repaired by the contractor at his expense. The road would be photographed in order to provide documentation of pre-project conditions. No tracked construction equipment would be used on the road.

Rather than grout, sand would be blown in between the existing 30” RCP and the new 24” pipe. Injection points may be needed along the road but that would be determined by the contractor and then repaired. The number of loads of sand and the size of the dump trucks needed would be determined by the contractor, according to UDOT loading requirements. Traffic patterns to accommodate this

project would be determined and carried out by the contractor. The road would be cleaned up and restored to its current condition.

The gun range road would be restored to its current condition following construction.

CONSTRUCTION SCHEDULE: It is anticipated that construction would begin in fall of 2019, specifically in the month of October. How quickly the project moves forward is dependent on the weather, which is out of anyone's control. Ideally the project would be completed by April 2020 when irrigation water begins to flow in the canal/pipeline. If the contractor is unable to complete the project by mid-April, it would be completed in the fall of 2020. No work would occur during the summer months of 2020. In this sense, practicable means capable of being done or put into practice successfully.

The MIDC has a responsibility to maintain and preserve the integrity of the canal in order to convey water to its shareholders. The MIDC board does not intend any harm to any persons or homes. These standards may conflict in the event that the canal or access to the canal has been compromised. The project's intent is to reduce future issues, thereby resulting in less conflicts moving forward. MIDC board members, specifically, Mike Miner and Clayne Weight, would work with the contractor's superintendent and the engineer's onsite representative on a weekly basis, minimum, in order to ensure the project's specifications and quality control measures are adhered to, including communication with homeowners on Quiet Meadow Lane. Until the project is bid and a contractor selected, there is no contact information available.

CONSTRUCTION ACCESS: See Road Crossings Above.

RESPONSIBILITY AND QUALITY CONTROL PROCEDURES: The contractor obtains a bond for the work and MIDC is listed as a party. This is not set up until after a contractor is selected to do the work. MIDC and the contractor would sign the contract documents, which outline standard operating procedures.

VISUAL RESOURCES: Tree and vegetative growth along a canal is inherent and typically an unplanned for occurrence. MIDC would consult with the contractor regarding tree removal, specifically for the slip-lining on Quiet Meadow Lane, to minimize tree removal where possible.

CULTURAL RESOURCES: Bighorn Archaeological Consultants performed a cultural resource inventory, survey, and report for the project area in November

2018 and September 2019. As stated in the EA, two sites were previously recorded, but both were determined NRHP ineligible, with concurrence from SHPO. The report is on file with the USBR's Provo office.

SYSTEM OPERATIONS: MIDC's water system has other water sources and conveyance systems in addition to their Hobble Creek water source. This project is specifically related to Hobble Creek Water. It is in the best interest of MIDC to reduce their dependence on Strawberry Valley Project SVP water. Each water year, as well as the amount of water available, would determine how much SVP water would be needed.

NOISE: Contractors typically start early in the morning, working long hours in order to reduce the length of time the project impacts residents. As long as no unforeseen issues arise, it is not anticipated that the slip-lining would take very long. It should move faster than the actual pipe placement in the ground, which under favorable conditions means approximately 500 feet could be placed in a day. The engineer's onsite representative would be observing the work crew and would report any safety concerns to the construction superintendent. It is likely that representatives from the Division of Water Resources and the Bureau of Reclamation would also be making periodic site visits to observe construction.

NOXIOUS WEEDS:

There is a field guide for Utah's noxious weeds found online at: https://extension.usu.edu/fieldguides/ou-files/Noxious-Weed-Field-Guide-for-Utah.pdf

ACCESS AND TRANSPORTATION:

See previous responses.

WATER RIGHTS:

Water Right information is publicly available on Utah Division of Water Rights website at: https://www.waterrights.utah.gov

PUBLIC INVOLVEMENT:

It is not clear what this comment is referring to.

UTAH SHPO:

See response above.

CONTACT INFORMATION:

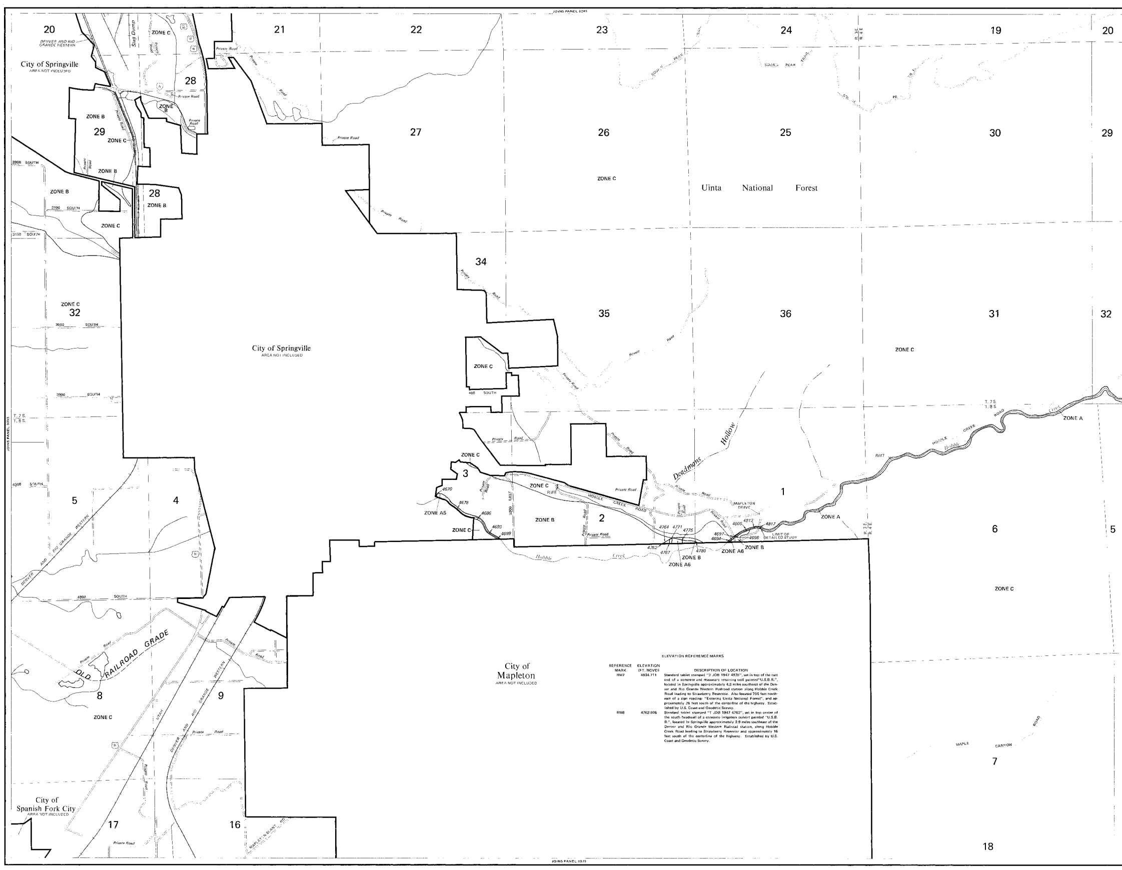
MIDC would be the main contact for any concerns arising during construction. They can be contacted at their office in Springville.

PUBLIC MEETING:

Thank you for attending the public meeting. I am unaware of any intimidation tactics that were voiced that evening. I am sorry you felt threatened.

It is the intent of all parties involved in this project to provide a successful project, during and following completion. While there may be some inconveniences for a short time, the final project would be a benefit to the shareholders and community as a whole. We appreciate your comments and interest in the project and MIDC is aware of your concerns and will convey them to the selected contractor.

Appendix B - FEMA Flood Map



Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

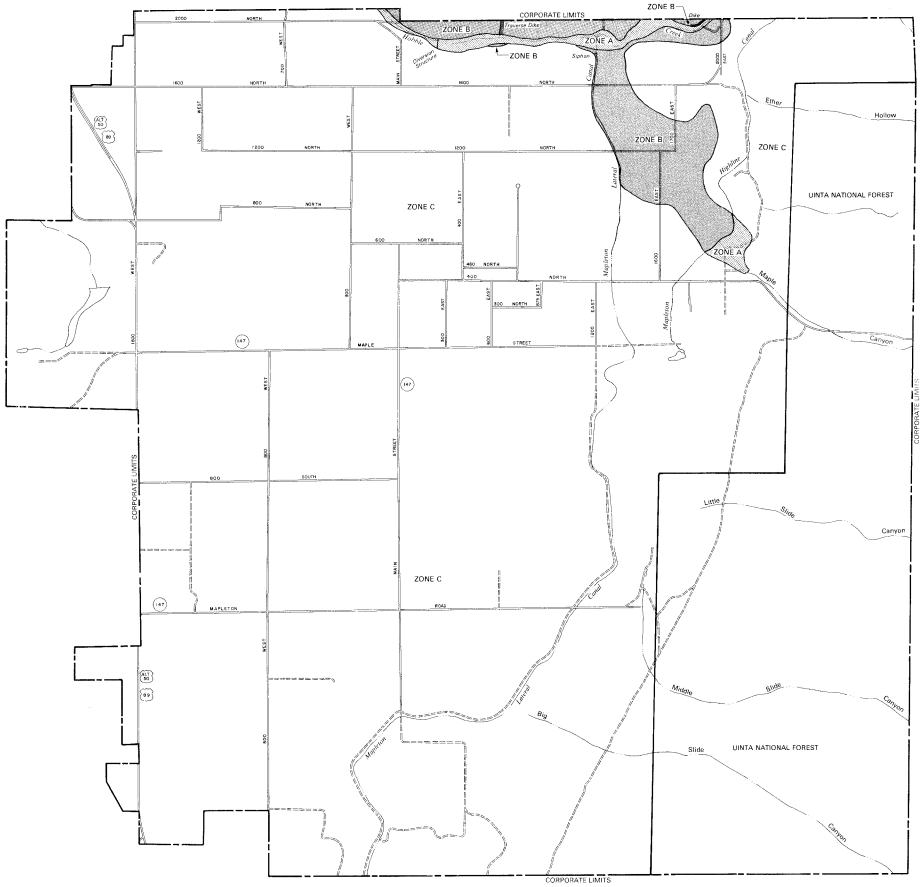
UTAH COUNTY, UTAH
(UNINCORPORATED AREAS)

PANEL 360 OF 725
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
495517 0360 A

EFFECTIVE DATE:
OCTOBER 15, 1982

Federal Emergency Management Agency



KEY TO MAP

100-Year Flood Boundary	ZONE C
100-Year Flood Boundary	ZONE B
Zone Designations*	ZONE A
100-Year Flood Boundary	ZONE B
100-Year Flood Boundary	ZONE C
Base Flood Elevation Line With Elevation In Feet**	512
Base Flood Elevation In Feet Where Uniform Within Zone**	EL 867)
Elevation Reference Mark	RM7 x
River Mile	• M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the Base Flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

INITIAL IDENTIFICATION:
JUNE 28, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
MARCH 26, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:
DECEMBER 16, 1980

FLOOD INSURANCE RATE MAP REVISIONS:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date listed on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

For rates of flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638-6620, or (800) 424-8872.

APPROXIMATE SCALE
1000 0 1000 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF MAPLETON, UTAH
UTAH COUNTY

ONLY PANEL PRINTED

COMMUNITY-PANEL NUMBER
490156 0005 B

EFFECTIVE DATE:
DECEMBER 16, 1980

federal emergency management agency
federal insurance administration