RECLAMATION

Managing Water in the West

Draft Environmental Assessment Scipio Irrigation Company Ivie Creek Pipeline Project - WaterSMART

PRO-EA-16-026

Upper Colorado Region
Provo Area Office
Provo, Utah

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

May 2017

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

Draft Environmental Assessment

Scipio Irrigation Company Ivie Creek Pipeline Project – WaterSMART

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Contents

Page

Chapter 1 Purpose of and Need for Proposed Action

1.1 Introduction

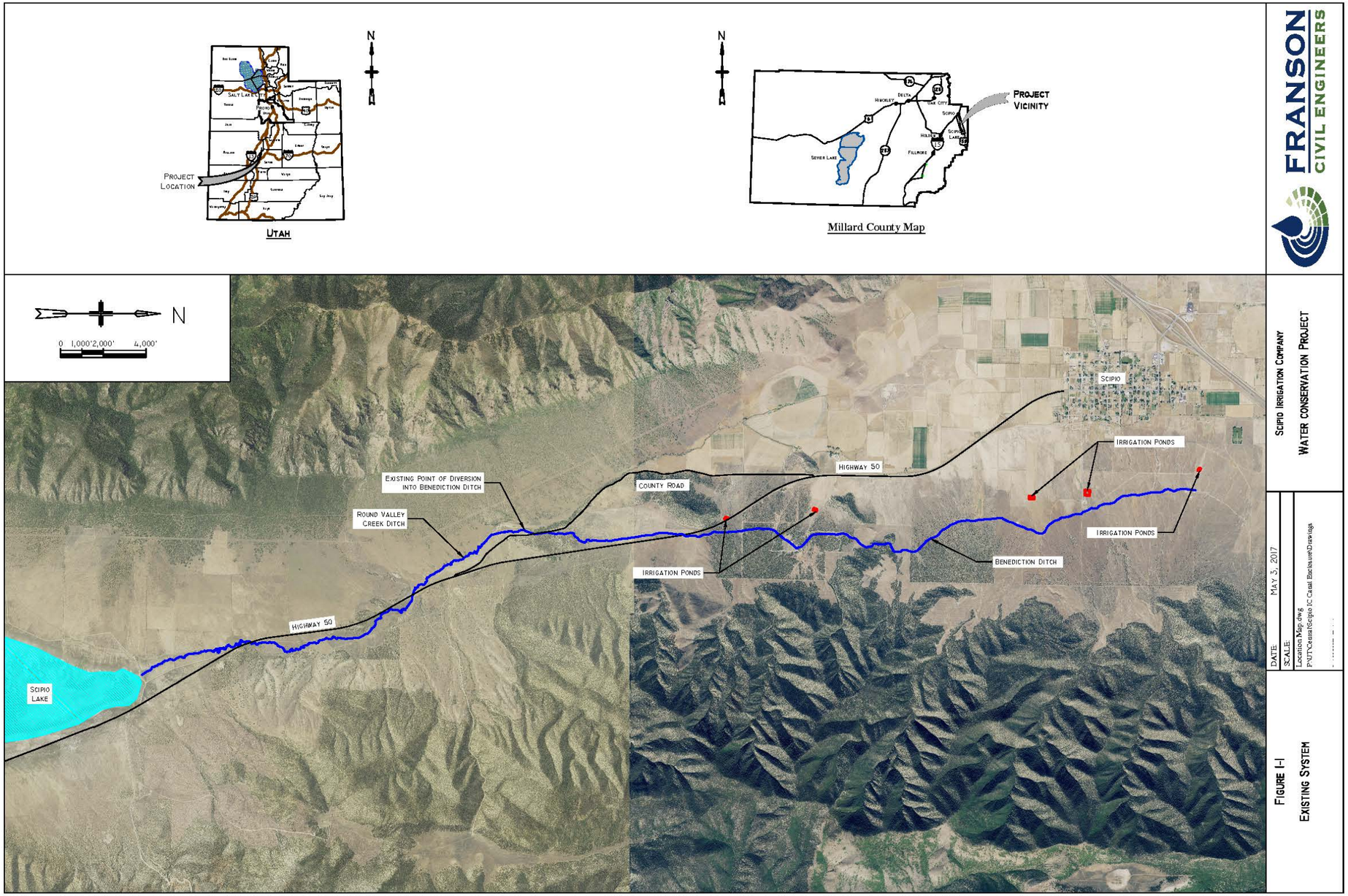
This Environmental Assessment (EA) is prepared to examine the potential environmental impacts of the Scipio Irrigation Company Ivie Creek Pipeline Project (Project), proposed by the Scipio Irrigation Company (SIC) in Millard County, Utah. If approved, the Project would divert water from the Round Valley Creek ditch, below Scipio Lake, into approximately 3.6 miles of pipeline that would be installed to replace the upper portion of the SIC's irrigation system. The pipeline alignment would cross private grazing land, public lands, and road rights-of-way. The Round Valley Creek Ditch would remain open to support flood flows, spring water, and water that leaks from the head gate on Scipio Lake.

1.2 Background

The SIC is a non-profit, mutual irrigation company that provides water to 160 stockholders in and around the town of Scipio, Utah. The primary crops irrigated are alfalfa and grains for forage; including a three-way mix of barley, wheat, and oats. Incorporated in February 1897, SIC owns several water rights to store 10,400 acre-feet in Scipio Lake Reservoir. Local residents indicated that a dam was built at the site in the 1860s by the local settlers of the valley. Utah Dam Safety records indicate that the current dam was built in 1936 by the Scipio Irrigation Company. Water rights allow for irrigation of 5,600 acres of agricultural land. However, the stockholders currently only irrigate approximately 2,200 acres due to water shortages resulting from drought, an insufficient water supply, and water losses. The U.S. Drought Monitor website shows this region has experienced moderate to severe drought for the last 4 years (US Drought Monitor 2017).

Figure 1-1 shows the existing system for the SIC. Water is released from Scipio Lake into the Round Valley Creek, which also serves as the conveyance ditch. Round Valley Creek Ditch then travels north to a diversion into the Benediction Ditch (also known as Highline Canal, but herein referred to as Benediction Ditch). There are five regulating ponds that receive water from the Benediction Ditch and distribute the water to stockholders' fields. A pressurized irrigation system has been installed downstream of the various ponds. The total transmission system is approximately 9.4 miles in length between Scipio Lake and the last pond east of Scipio.

Figure 1-1
Current Conveyance System



1.3 Purpose of and Need for Proposed Action

This EA evaluates the potential effects of the Proposed Action in order to determine whether it would cause significant impacts to the human or natural environment, as defined by the National Environmental Policy Act (NEPA). If the EA shows no significant impacts associated with implementation of the Project, then a Finding of No Significant Impact (FONSI) would be issued by the U.S. Bureau of Reclamation (Reclamation). Otherwise, an Environmental Impact Statement would be necessary prior to implementation of the Proposed Action. Compliance with NEPA is required for this Project because funding from Reclamation's WaterSMART Program would be used to complete the Project.

This Project would conserve water thereby providing irrigation stockholders with a more reliable source of water, especially as it becomes critical in the late summer season. The purposes of the Project are to:

- Conserve approximately 21 percent of the total 51 percent of water lost due to seepage and/or evaporation, which averages about 1,700 acre-feet of water annually;
- Decrease shortages thus mitigating drought impacts;
- Provide stockholders with a more reliable and sustainable water supply; and
- Produce a positive impact in the local economy by increasing stockholders' crop production.

All water stored in Scipio Lake and released to Round Valley Creek Ditch is used for the benefit of the SIC. Scipio Lake Reservoir has a capacity of 10,400 acre-feet at full pool. However, the reservoir does not always reach full capacity due to evaporation and extended drought conditions, as well as seepage associated with the conveyance system. The purpose and need for the Project is to reduce seepage, conserve water, and shore up the available water source pertinent to the Project associated water rights. By conserving water, SIC stockholders would be able to extend their irrigation season and possibly irrigate land that was historically irrigated and gone fallow due to lack of water. The substantial water loss has a negative impact on SIC stockholders, the town of Scipio, and the local economy in general.

Based on flow records from 2011 to 2013, the SIC diverts an average annual volume of 7,933 acre-feet of water from Scipio Lake, which is less than its storage water right of 10,400 acre-feet. The volume each year is entirely dependent on the water year as it widely varies as evidenced in 2011-2013; which was 9,106 acre-feet, 8,819 acre-feet, and 5,872 acre-feet, respectively.

The actual water delivered from the 9.4 mile conveyance system is on average 51 percent of the total water diverted into the system. These losses from seepage and

evaporation were computed by subtracting the total outflows from the five regulating ponds compared to the flows released into the conveyance system from Scipio Lake. These discharge locations have automated flow measuring devices, which provide information to the Sevier River Water Users Association.

This Project proposes to pipe about 3.6 miles of the conveyance system, which is expected to conserve 21 percent of the 51 percent lost, or approximately 1,700 acre-feet of water on average. The remaining 30 percent losses could be conserved with future projects. By conserving 21 percent of this water lost, the Project would bring the water supply closer to the agricultural water demand. However, no amount of water conservation will solve the late season water shortages since Scipio Lake does not have the capacity to hold enough water to meet the late season demand allowed by the SIC's water rights.

1.4 Public Scoping and Involvement

A public scoping meeting will be held on June 6, 2017, at 6:00 pm at the Scipio Town Hall at 160 North State Street, Scipio, Utah, to discuss the Project and answer questions. Notices were sent to adjacent landowners, including the Bureau of Land Management (BLM) and the Utah School and Institutional Trust Lands Administration (SITLA), stockholders, Scipio Town, Utah Department of Natural Resources, and the State of Utah Division of Water Resources (DWRe). This meeting will be held during the 30-day public comment period on the Draft EA from May 23 to June 22, 2017.

A few of the key public meetings and the 30-day comment period are listed below:

1. On November 18, 2016, notification was mailed to all SIC stockholders regarding the annual meeting to be held on December 5, 2016.
2. On December 5, 2016, the Annual Stockholder Meeting was held with 91.8 percent of the shares represented. A final vote on building the Project and understanding repayment of the associated loan was held, and 68.4 percent of those shares in attendance voted to move forward with the Project.
3. A 30-day comment period began May 23, 2017 and ended June 22, 2017.
4. A public meeting was held on June 6, 2017 in Scipio, Utah.

1.5 Permits and Authorizations

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

Table 1-1
Permits and Authorizations

Agency/Department	Purpose
Utah Department of Environmental Quality, Division of Water Quality	A Utah Pollutant Discharge Elimination System (UPDES) permit for construction activities would be required to help prevent erosion and ensure sediment controls are utilized to minimize construction impacts. The Project contractor would obtain this permit.
Utah Department of Natural Resources, Division of Water Rights (DWRi)	Stream Alteration Permit under Section 404 of the Clean Water Act (CWA) and Utah statutory criteria of stream alteration described in the Utah Code. This would apply for impacts to Round Valley Creek Ditch or other natural streams or creeks during Project construction.
Utah State Historic Preservation Office (SHPO)	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470.
U.S. Fish and Wildlife Service (USFWS)	Consultation pursuant to Section 7 of the Endangered Species Act (ESA) if threatened or endangered species are to be potentially impacted by the Project.
U.S. Army Corps of Engineers (USACE)	A USACE permit, in compliance with Section 404 of the CWA, would be required prior to the discharge of dredged or fill material into "waters of the United States".

1.6 Scope of Analysis

The purpose of this EA is to determine whether or not Round Valley Creek Ditch should be piped to convey irrigation water to SIC stockholders. This determination includes consideration of whether there would be significant impacts to the human environment. In order to install the pipeline, this EA must be completed. If no significant impacts to the human environment are identified, a FONSI would need to be issued. Analysis in the EA includes temporary, permanent, direct, indirect, and cumulative impacts associated with construction activities of the Project.

Chapter 2 Alternatives

2.1 Introduction

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

2.2 No Action

Under the No Action Alternative, the SIC conveyance system would remain the same. The system would continue to lose water diverted from Scipio Lake through seepage and evaporation. This negative impact on SIC stockholders, the town of Scipio, and local economics would continue. Figure 1-1 shows the current conveyance system.

2.3 Proposed Action

The Proposed Action is the preferred alternative. The Proposed Action would install approximately 3.6 miles of high density polyethylene (HPDE) pipeline to deliver irrigation water from Scipio Lake to the Benediction Ditch. On average, an estimated 1,700 acre-feet of water would be conserved annually by implementing the Project. It would reduce the impact of drought, decrease the number and duration of water shortages, conserve water for agricultural use, and provide a more reliable and sustainable water supply, thereby creating a positive impact on the local economy.

Figure 2-1 shows the proposed pipeline alignment. The majority of the Project area is currently used as livestock rangeland. Due to the deeply incised channel at the outlet of Scipio Lake and the adjacent relatively flat terrain, the diversion location into the pipeline was chosen at a previously disturbed area where cattle come to the water approximately ½-mile downstream of Scipio Lake. An inlet/screening structure would be constructed at the beginning of the pipeline. The pipeline continues north approximately 3.6 miles through private and SITLA properties. It would cross Round Valley Creek Ditch at one location and a stream alteration permit would be obtained for both this and the inlet locations. As shown on Figure 2-1, just past the existing diversion into the Benediction Ditch, the pipeline alignment continues north along the county road where it transects a narrow pass between two hillsides. This location is difficult to maintain, so the pipeline would continue past this location, bypassing the diversion point into the

Benediction Ditch. An outlet structure would be constructed at the end of the pipeline where it would discharge into the Benediction Ditch.

Round Valley Creek Ditch, which only conveys water of the SIC, would be essentially dewatered during the irrigation season as a result of this Project once irrigation begins (typically in April) until the water in Scipio Lake runs out. Round Valley Creek Ditch is currently dewatered during the non-irrigation season when the reservoir is being filled. There would be four turnout locations in the pipeline to release water to troughs for cattle and to drain the pipeline. Figure 2-2 shows the property owners along the pipeline alignment, as well as the Project staging areas and turnout locations. There are three spring locations that may provide some flow in the ditch during the irrigation season. Additionally, the head guard gate on Scipio Lake leaks and provides a small unmeasured flow in the ditch during the non-irrigation season.

Construction work would be completed during the non-irrigation season. Access to the farmlands and agricultural areas would be maintained. The SIC's board members have been working with the affected property owners to address their concerns as the necessary easements are obtained.

Figure 2-1
Pipeline Alignment

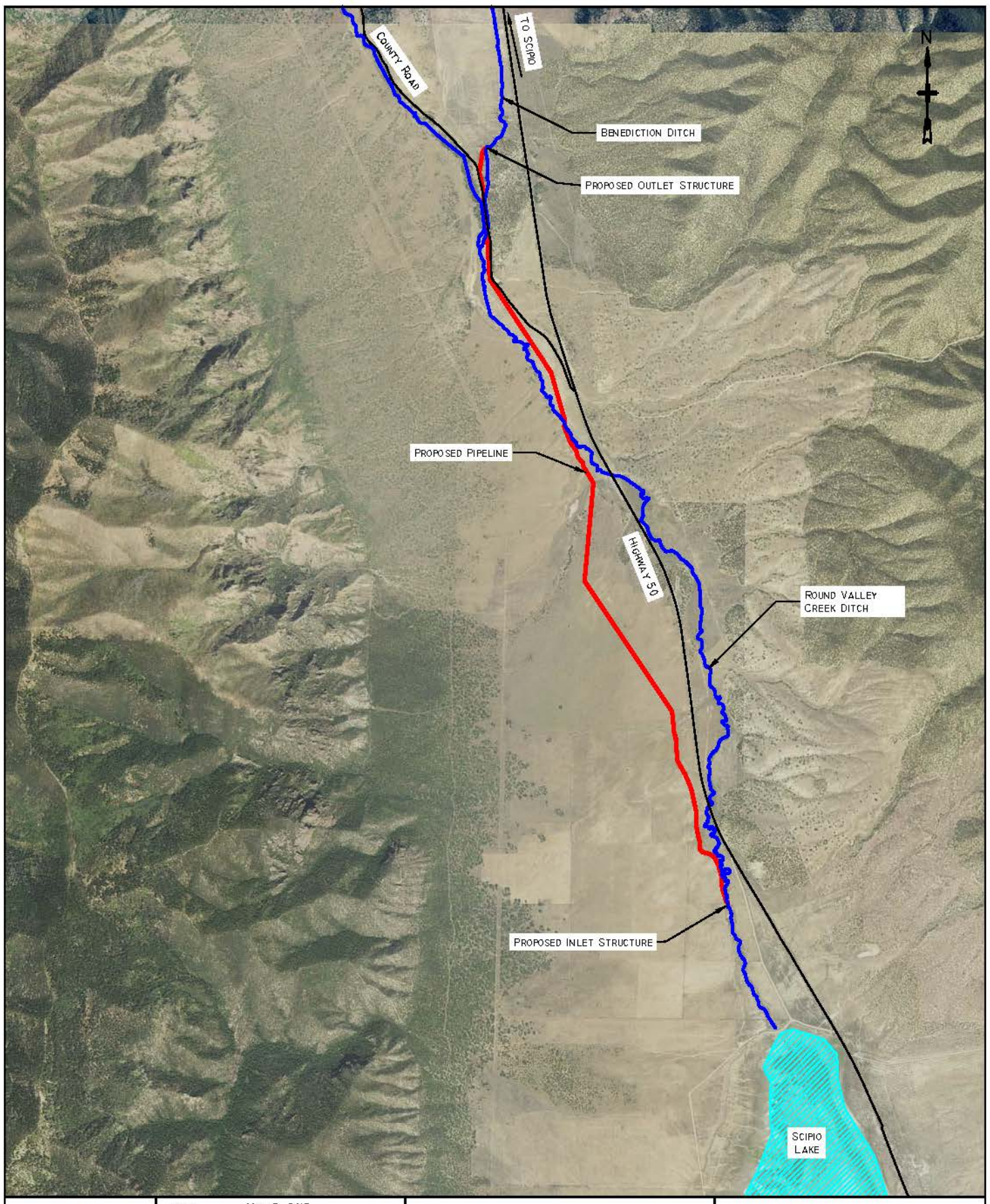
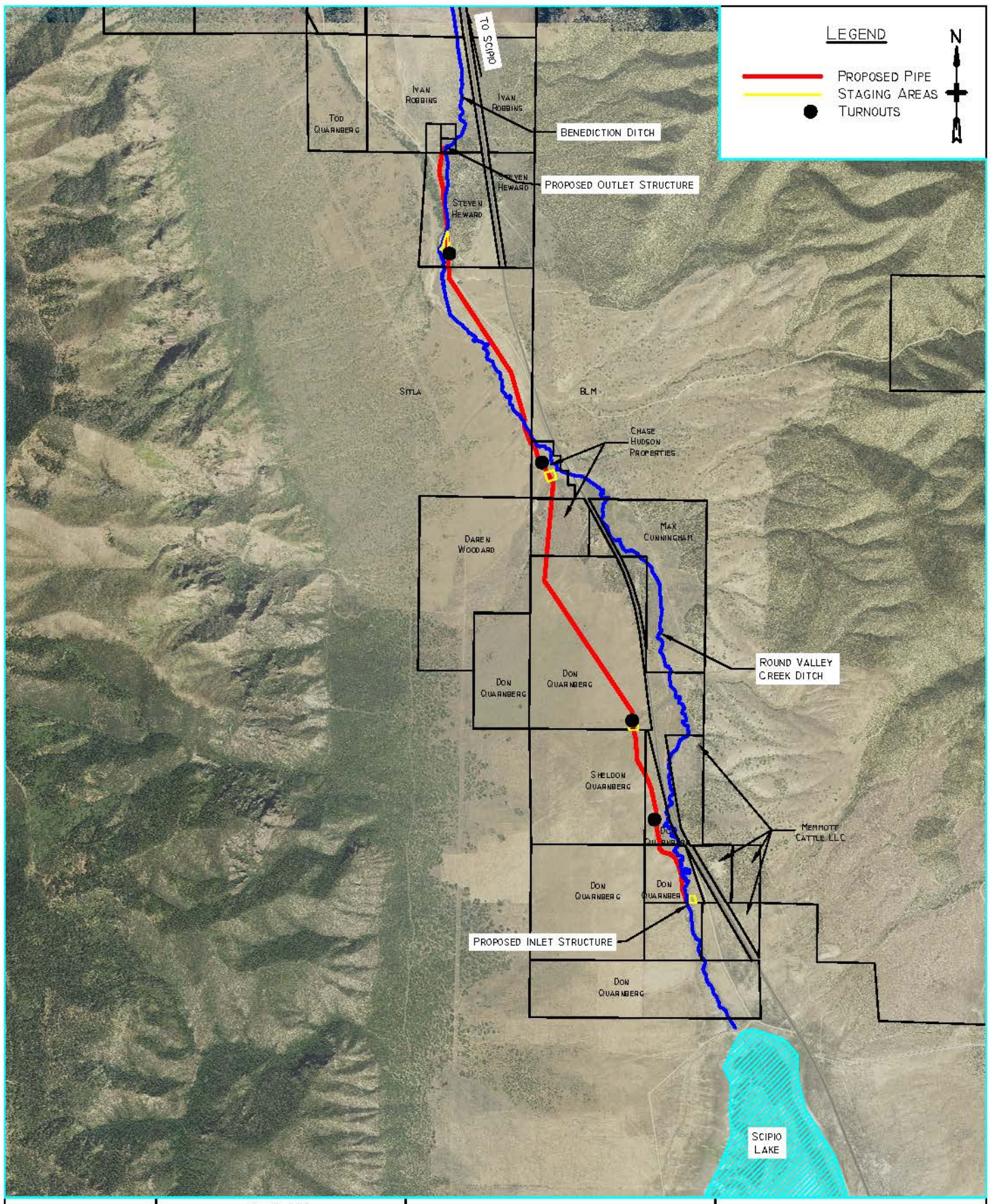


Figure 2-2
Land Ownership



FRANSON CIVIL ENGINEERS	DATE: MAY 3, 2017 SCALE: Location Map.dwg P:\UT\Central\Scipio IC Canal Enclosure\Drawings	SCIPIO IRRIGATION COMPANY WATER CONSERVATION PROJECT	FIGURE 2-2 PROPERTY OWNERSHIP

2.3.1 Pipeline

The HDPE pipe size would be 36-inches-in-diameter along its entire length. During construction, the Round Valley Creek Ditch would continue to be operated as an open ditch and not piped. Once the Project is complete, the existing facilities would remain to convey high flows and possibly irrigation water if the pipeline required maintenance during the irrigation season. The pipeline would be used to convey irrigation water. The Project alignment would be graded back to its current condition where possible. During site restoration, topsoil and grubbed materials would be replaced on the surface. The native seeds and vegetative material in the topsoil would revegetate disturbed areas with native vegetation.

2.3.2 Turnouts

There would be four 2-inch turnouts that would act as drains during the winter to empty the pipeline. They would also release water into troughs for stock watering along the pipeline during the irrigation season when the pipeline is conveying water. The method of providing water for the stock would reduce damage to the ditch banks.

2.3.3 Rights-of-Way

The land, on which the construction would occur, is either private property, of which easements are being obtained, or public lands with an easement being obtained from SITLA, or a small area within the Benediction Ditch's alignment right-of-way. Permanent easements from SITLA and private owners would be 30-feet-wide, while temporary easements would be 50-feet-wide. The widest area of disturbance for the pipeline installation would be less than 50 feet.

2.3.4 Road Crossing

A portion of the Project alignment would be installed in an unpaved county road, which is rarely used. The construction corridor is narrow where the pipeline would be installed in the county road and would require the road to be temporarily shutdown so the road can be cut and the pipeline installed. While the road is out of service, temporary detours would be provided. The road would be temporarily repaired until the pipeline construction is completed and all road surfaces repaired at the same time.

2.3.5 River Crossings

The Round Valley Creek Ditch would be affected in two locations; one at the diversion point into the pipeline and the other where the pipeline crosses the ditch approximately 2.3 miles from the inlet as shown on Figure 2-1. Both locations have been selected where cattle have been watering. The channel is deeply incised due to erosion, and in most stretches, there are vertical banks from 10 to

30 feet in height. The area selected for the inlet and crossing have sloped banks and are already disturbed due to the use by the cattle. The channel would be restored to its pre-construction condition after the pipeline is installed. The pipeline would be installed between late fall and early spring when there is no flow in the channel at this location. The pipeline would be installed under the channel and encased in concrete to protect the pipeline. If the channel is still actively eroding, the concrete would prevent the head cut from progressing upstream.

2.3.6 Construction Schedule

It is anticipated the work would begin during the fall or winter of 2017 and all construction could be completed by the beginning of the irrigation season in 2018. If the pipeline is not built in this timeframe, conditions would remain the same until the pipeline is completed the following year. The ditch would operate as normal until the pipeline is completed. The SIC's board members have been and would continue to work with the affected property owners to address their concerns.

2.3.7 Pipeline Construction Procedures

2.3.7.1 Construction Sequence

Construction would occur in the following sequence:

- Grade and excavate pipeline alignment
- Install pipeline bedding materials
- Haul pipeline to construction sites
- Place pipeline and connect
- Backfill around pipeline and grade surface
- Cleanup and restore areas disturbed by construction

2.3.7.2 Grade and Excavate Pipeline Alignment

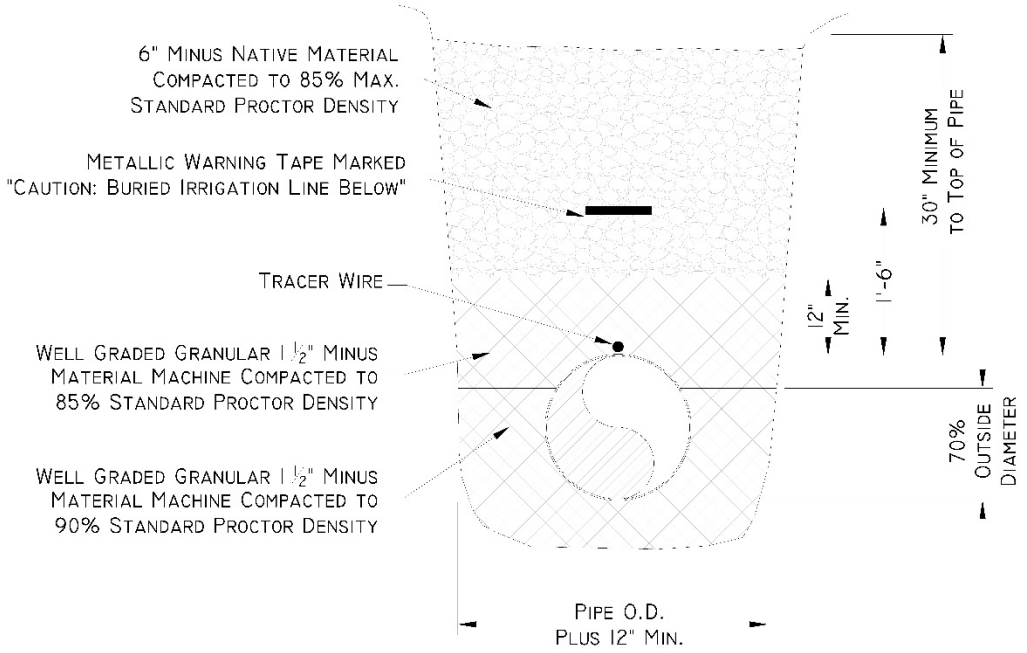
The pipeline alignment would be graded to clear and grub vegetation and strip topsoil to provide a base for installation of the pipeline and facilitate future restoration of the pipeline alignment. All excess material would be disposed within easements of the pipeline right-of-way. Much of the excavated material would be used for backfill with any excess material blended into adjacent lands. Bedding material would be hauled to the Project site and placed in the bottom of the pipeline trench if native material is not acceptable for use as bedding material. The native material may also be screened to provide bedding.

2.3.6.3 Pipeline Installation

The pipe manufacturer would transport the materials to the work site by flatbed truck and/or specially outfitted loaders. The 50-foot-long sections of HDPE pipe would be fused together using a fusing machine to create a much longer section of pipe. This long section of pipe would then be dragged to the proper place along

the alignment by an excavator, bulldozer, or front end loader. The pipeline trench would be excavated using a track hoe and would range in depth from 2.5 to 8-feet-deep from the surface to the top of the pipe. Construction equipment would place the pipeline in the prepared trench and connect the pipe to the previously laid section by fusing the pieces together. Backfill would be placed at correct compaction levels around the pipeline from either material available along the alignment or imported from local off-site locations. Figure 2-3 shows a typical trench detail. Backfill would be mechanically compacted with a compactor. Air-valves, control valves, drains, fittings, and relief valves would be installed at appropriate locations to ensure the proper operation of the pipeline. Spoils in work areas would be blended with existing contours to maintain local drainage patterns. All construction debris would be removed by the contractor.

Figure 2-3



B TYPICAL TRENCH DETAIL
NOT TO SCALE

2.3.7.4 Road Crossings

It is anticipated that pipeline installation at road crossings would be completed with minimal disturbance to existing structures. Backfill would be compacted all the way to the ground surface at road crossings to prevent the road surface from subsiding under repeated traffic loads during and after construction. The open

trench would be filled to the surface to allow for use of the road. During final grading of the area, road base would be placed over the trench to restore the road to its previous condition. The road crossing would be restored to a condition better than, or equal to, existing conditions as confirmed by photographs. The county would have to approve the site restoration.

2.3.7.5 Quality Control Procedures

The contractor would ensure quality control of construction through visual inspection during and after backfilling and all construction work is completed. The engineer would make sure required testing would be performed to ensure the system operates to design specifications.

2.3.7.6 Construction Staging Areas

Four separate staging areas in the Project area were evaluated (as part of the environmental process) to be used for equipment staging, construction personnel vehicular parking, and occasional stockpiling materials. It is anticipated that most of the fusing of pipe would occur in these staging areas. However, the pipeline alignment would also be a continuous staging area for the construction crews as they construct the pipeline by preparing the alignment, laying the pipeline, backfilling, finishing grading, and restoration. Work would be conducted in stages.

2.3.7.7 Operation and Maintenance

The new pipeline would be typically operated between April 15 and October 15. Maintenance of the pipeline is expected to require less effort than the current system. The existing ditch system would remain open to receive excess water from the pipeline turnouts for cattle watering and to capture spring water. Emergency situations, or when other conveyance systems are out of service, may require the pipeline to be operated at other times. The SIC and the town of Scipio would work cooperatively to maintain the existing facilities for flood control.

2.3.7.8 Standard Operating Procedures

The Project has been designed to avoid or minimize adverse impacts. Standard Operating Procedures (SOP) would be followed during Project construction and operation and maintenance to avoid or minimize adverse impacts on people and natural resources. Chapter 3 presents the impact analysis for resources after SOP have been successfully implemented.

2.4 Alternatives Considered and Eliminated from Further Study

The following alternatives were evaluated but eliminated because they did not meet the purpose of, or need for, the Project.

2.4.1 Membrane Lining

This alternative involves lining the existing ditch 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 was rejected because the deeply incised and eroded nature of the existing channel would require a very large earth moving effort to stabilize banks and install the liner. The impact on the natural system would be much greater as all of the existing vegetation would likely need to be removed as well as the expense of the Project being greater. Punctures can occur when equipment or large animals such as livestock, enter the ditch.

This alternative does not meet the purpose and need of the Project because it would cause a large impact on the natural environment and not be economically feasible due to the very large amount of earthwork that would be needed.

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, which are listed in Section 1.3. As shown in Table 2-1, the No Action Alternative did not meet the Project objectives while the Proposed Action met all five objectives.

Table 2-1
Comparison of Alternatives

Project Objective	Does the No Action Meet the Objective?	Does the Proposed Action Meet the Objective?
Conserve water	No	Yes
Reduce the impact of drought	No	Yes
Provide more reliable and sustainable water supply	No	Yes
Produce a positive impact on the local economy	No	Yes

2.6 Minimization Measures Incorporated into the Proposed Action

The minimization measures, along with other measures listed under each resource in Chapter 3 and Chapter 4, have been incorporated into the Proposed Action to lessen the potential adverse effects.

- 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. It would have as small a footprint as possible.
- Staging areas would be located where they would minimize new disturbance of area soils and vegetation. These areas would be approved and cleared in advance.
- Ground disturbance would be minimized to the extent possible.
- Only certified weed-free hay, straw or mulch if needed, would be used to minimize the potential spread of nonnative invasive plants.
- The contractor would be responsible during construction for safety measures, noise and dust control, and air and water pollution.
- The Project would be constructed mostly in the winter so that disturbances would be ready for revegetation in the spring when water is available.
- Topsoil and vegetation removed prior to excavation would be returned as part of final grading. Existing vegetation would be mixed with the topsoil to provide a mulch and provide native seed.

Chapter 3 Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the environment that could be affected by the Proposed Action. These impacts are discussed under the following resource issues: geology and soils resources; visual resources; cultural resources; paleontological resources; wilderness areas and wild and scenic rivers; hydrology; water quality; system operations; health, safety, air quality, and noise; prime and unique farmlands; flood plains; wetlands, riparian, noxious weeds, and existing vegetation; fish and wildlife resources; threatened, endangered, and sensitive species; recreation; socioeconomics; access and transportation; water rights; Indian Trust Assets (ITAs); environmental justice; and 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 minimal and short-term. Chapter 3 presents the impact analysis for resources after minimization measures and standard Reclamation best management practices (BMPs) have been successfully implemented.

3.2 Resources Considered and Eliminated from Further Analysis

Table 3-1 identifies the resources that have been eliminated from further analysis. Impacts to these resources were considered, but not analyzed in detail, because they were determined to not be affected directly, indirectly, or cumulatively by the No Action or Proposed Action Alternatives.

Table 3-1
Resources Eliminated from Further Analysis

Resources	Rationale for Elimination from Further Analysis
Paleontological Resources	Through consultation with the State Paleontologist, we found there are no paleontological localities recorded within the Project area. It would have a low probability to be a paleontological sensitive area.
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	There is Prime Farmland within the Project area, but no Unique Farmland. However, 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.
Recreation	Round Valley Creek is not a fishery and is too small to support any measurable recreation. All water released from Scipio Lake is to provide irrigation water to SIC. Water is typically only released during the irrigation season. Therefore, Round Valley Creek is dewatered about half of the year preventing fish from living in the vicinity of the Project. The SIC's Benediction Ditch does not provide sources of recreation.

3.3 Affected Environment and Environmental Consequences

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

3.3.1 Geology and Soils Resources

Located in Millard County, "Round Valley", a geographical feature on the Scipio South United States Geological Survey Quadrangle, extends north and south, roughly parallel to the Millard-Sevier County line. The eastern boundary of Round Valley is the Valley Mountains, which separate it from Sevier Valley, and the Pavant Plateau is on the west. Elevations range from about 5,260 feet at Scipio to 6,125 feet near the southern end of the valley. The entire area is about a mile above sea level. Round Valley is an enclosed basin that has no surface drainage outlets.

Alluvial fans and sand dunes make up most of the nearly level to moderately steep landscape. The soils and rocks are fractured and faulted, and generally dip toward the east. The Round Valley Range is hemmed in on the east and south by the Valley Range and on the west by the precipitous up-faulted wall of the Pavant Range. The lower valley, located by the town of Scipio, is bounded on the east by the Valley Range, and on the west by the Pavant and Canyon Ranges, and on the north by a low ridge.

The upper and lower valley each constitute relatively independent rock basins containing a thick deposit of loose sediments that are partly saturated with water. The groundwater level fluctuates with the rainfall and the amount of irrigation water that is used. Many wells, most of which are in or near Scipio, supply the greater part of the drinking, household, and stock water.

3.3.1.1 No Action

Under the No Action, the Project would not be built. This would have no effect on geology and soils.

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 Storm Water Pollution Prevention Plan (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. Soils in this area are highly erodible as demonstrated by the deeply incised channel and vertical banks. Conveying water through the pipeline would reduce peak flows during high flow events and reduce erosion.

3.3.2 Visual Resources

The natural and constructed features contribute to the visual resources within the Project area, including: mountain views, agricultural fields, and vegetation along the ditch. Local residents have a perception of the existing physical characteristics. 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.

3.3.2.1 No Action

Under the No Action Alternative, there would be no changes to the existing visual resources.

3.3.2.2 Proposed Action

Under the Proposed Action Alternative, it is not anticipated there would be major, long-term, direct or indirect impacts to the visual resources along the Project area due to construction of the Project. Round Valley Creek Ditch would remain open

for high flows. Additionally, the slow leak from Scipio Lake would continue to provide some water for the riparian vegetation.

Additionally, there would be no permanent impact, from constructing a pipeline, to the overall visual character for the close-range to mid-range to long-range viewers. Any visual impairment due to construction would be temporary.

3.3.3 Cultural Resources

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

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

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

A Class I literature review and a Class III cultural resource inventory were completed for the APE, defined in the action alternative and analyzed for the proposed action, by Bighorn Archaeological Consultants, LLC (Bighorn) in March 2017. A total of 46.5 acres were inventoried during the Class III inventory to determine how the proposed action would affect cultural resources. Four cultural resources were identified during the inventory: These include two historic artifact scatters, an irrigation ditch, and a road.

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

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

- That are associated with events that have made a significant contribution to the broad patterns of our history; or

- That are associated with the lives of persons significant in our past; or

- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

- That have yielded, or may be likely to yield, information important in prehistory or history.

Based upon these considerations, Bighorn recommended, with Reclamation's agreement, that the historic road was a historic resource eligible for inclusion on the NRHP while the other cultural resources are not considered eligible. The assessment has been sent to the SHPO for concurrence. The proposed project would not impact the historic road. Therefore, the project would have no adverse effect on cultural resources.

3.3.3.1 No Action

Under the No Action Alternative, a continuation of existing management and land use practices would occur. It 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

The Proposed Action Alternative would have no adverse effect on cultural resources.

3.3.4 Hydrology

The Project is located in a valley termed "Round Valley" and includes the upper valley with Ivie Creek and Scipio Lake, and the lower valley with Round Valley Creek below the reservoir and the town of Scipio. Upstream of Scipio Lake Reservoir, Ivie Creek originates in the mountains by the Maple Grove Campground. It is formed by three streams supplied by springs and melting snow in the spring months and a series of large springs near the head of the upper valley. The creek shrinks greatly when the snow has finished melting. The creek shrinks greatly when the snow has finished melting. Much of the rain and snow sinks into the ground, saturating the porous materials underlying the valleys and deserts, which eventually reappears at the surface as valley springs. However, being widely scattered and not of sufficient size; they do not give rise to streams of any importance. Snow melt or rainstorms produce the water sources in the intermittent small streams.

Ivie Creek flows northward about 5 miles to Scipio Lake Reservoir. Scipio Lake Dam, which is only about 10 feet tall, was constructed at a natural depression near the outlet of the upper valley. Below the reservoir, the creek is formally known as Round Valley Creek, but the locals refer to it as "the ditch". The SIC drains Scipio Lake almost completely each year into Round Valley Creek Ditch for irrigation purposes. In drought years, the reservoir has been dry in early July. There are three locations where springs provide a minimal amount of water to the ditch. It terminates just northwest of the town of Scipio; however, no water ever reaches town in the ditch. The water in Scipio Lake Reservoir furnishes irrigation water in and around the town of Scipio.

The SIC observes that their water supply is delayed by a year based on the previous water year, i.e. a good winter will not necessarily result in a good water year, but the following year would.

3.3.4.1 No Action

Under the No Action Alternative, there would be no direct or indirect effect on the hydrology of the Round Valley Creek Ditch's water flows, as there would be no change in the existing management of the water resource.

3.3.4.2 Proposed Action

The Proposed Action Alternative would divert all water into the proposed pipeline about half a mile below Scipio Lake during the irrigation season. However, during high flow events, excess flows above the pipeline's capacity, water would remain in the ditch and continue to flow downstream. This may occur into the late spring depending upon seasonal conditions. Additionally, the ditch receives a minimal amount of spring water in three locations, which would not be captured below the pipeline diversion point, thereby adding to any flows in the ditch. Once the irrigation season is over, the flows from the leak in the head gate would remain in the ditch and be allowed to flow through the diversion structure.

The water supply available to the stockholders would increase due to eliminating high seepage and evaporation losses in the section being bypassed by the pipeline. The water savings would be captured in Scipio Lake for use later in the irrigation season by the stockholders. This would result in an improved water supply that would benefit crop production.

3.3.5 Water Quality

Each stream, reservoir, and ditch in Utah is classified according to its 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 (R317-2-13), Utah Administrative Code (UAC), Round Valley Creek, known by the locals as "the ditch", falls within Category 3, which are those waters that have insufficient or no data and information to determine if any designated use is attained.

There are no water quality concerns for Scipio Lake Reservoir or the Round Valley Creek Ditch.

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. Since no construction would occur, there would be no temporary 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 little to no water in the ditch during the winter. Piping the ditch would improve water quality in the system, because the water conveyed in the section of closed pipe would disallow exposure to storm water, agricultural, and urban runoff. There are no foreseen long term negative impacts to water quality in the Round Valley Creek Ditch or SIC's ditch system.

There is a potential temporary increase in turbidity due to sediment entering Round Valley Creek during construction of the diversion structure, which can cause the water to appear to be cloudy or murky. Additional particulate matter can include fine sediment, organic, and inorganic matter, which can reduce the aesthetic quality of the ditch water during construction. Erosion control measures would be specified in the construction specifications according to the CWA and environmental commitments in Section 4.1 to protect Round Valley Creek's water quality. The Project would require disturbed land to be graded to provide proper drainage, to blend with the natural contours, and to be revegetated with native plants. The diversion structure would be constructed during a period of time when Round Valley Creek Ditch has historically been dewatered. As a result, there would likely be no water in the ditch to degrade.

3.3.6 System Operations

Scipio Lake Reservoir, Round Valley Creek Ditch, and Benediction Ditch are solely controlled by the SIC for the purpose of meeting stockholder irrigation needs. Major components of the ditch system include the main diversion structure, trash screens, head gates or irrigation turnouts, check structures, and culverts.

3.3.6.1 No Action

Under the No Action Alternative, the SIC system would continue to operate under its current conditions. The SIC faces water shortages at the end of most irrigation seasons because of water losses in the system. The only water supply for the system is the water stored in Scipio Lake, so the water supply is dependent on this source alone.

3.3.6.2 Proposed Action

Under the Proposed Action Alternative, the system would have minimal losses and conserve, on average, 1,700 acre-feet of water annually. By piping the ditch, the required maintenance along the ditch would be reduced because of the minimal flows it would need to handle and the reduced amount of debris from entering the system. Releases from Scipio Lake Reservoir would be at a slower rate since it would require less water to be released to get the same volume delivered to the ponds due to water saved by the pipeline. Many stockholders currently sprinkler irrigate from the SIC's ponds located at the end of the system. Delivery of water to the regulating ponds would not change other than water would likely be available later in the irrigation season. Releases from the reservoir would generally be reduced which would allow the reservoir to have water in it for a longer period of time. Therefore, the Proposed Action would have a beneficial impact on the system operations.

3.3.7 Health, Safety, Air Quality, and Noise

This section identifies potential public safety hazards and health risks from the construction and operation of the Proposed Action and No Action. The Project is located in a rural area. Round Valley Creek Ditch acts as partial flood control in the area. The areas exposed to noise during construction lie adjacent to Highway 50.

The Project is located in an attainment area as defined under the Clean Air Act, which requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for airborne pollutants considered damaging to public health and the environment. Attainment designation refers to areas that do not exceed the NAAQS.

3.3.7.1 No Action

Under the No Action Alternative there would be no changes; therefore, no adverse effects to health, safety, air quality, and noise.

3.3.7.2 Proposed Action

The Proposed Action would have minor short-term effects during construction due to noise, safety at the construction site, and air quality. Local residents may experience minimal air quality impacts associated with dust during construction, but it is not considered to be a health issue since the actual construction area is over four miles from Scipio and over 1.5 miles from the nearest residence.

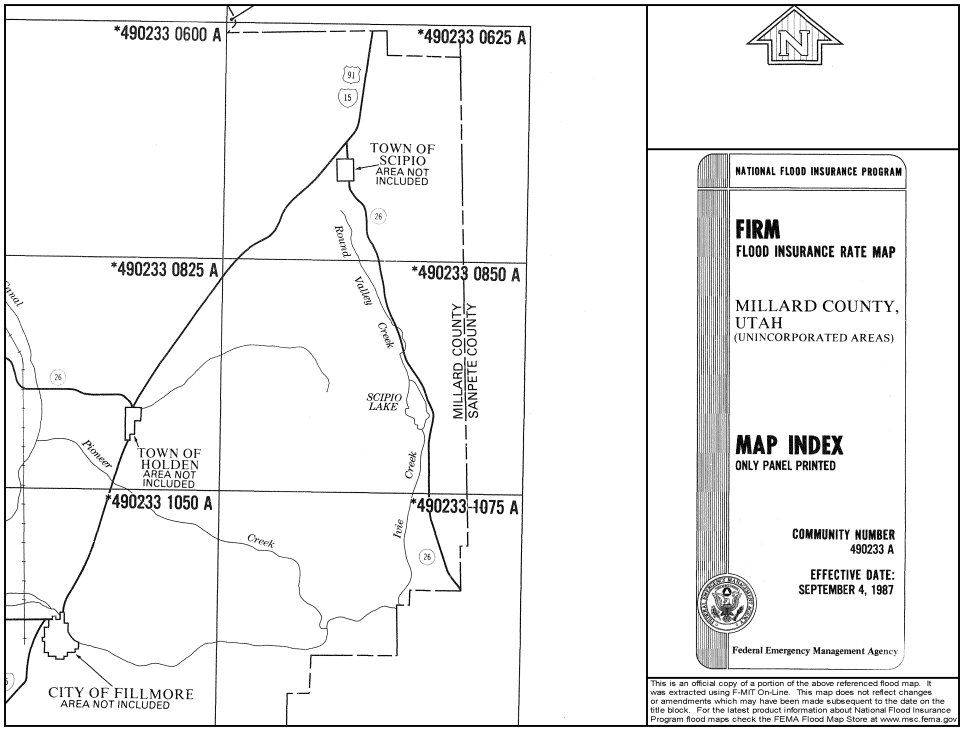
Public health and safety would not be affected by implementing the Proposed Action Alternative as the creek would remain open as it historically has been. There would be no long-term effects on health, safety, air quality, and noise.

3.3.8 Flood Plains

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 reflect the severity or type of flooding that could occur.

The Project area is defined as Zone D, which states, "areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted".

Figure 3-1
Flood Insurance Rate Map



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 flood plain areas would remain the same. However, there would be additional flood control capacity within the ditch, which would remain open and maintained for flood control, due to irrigation water no longer being delivered through the ditch.

3.3.9 Wetlands, Riparian, Noxious Weeds and Existing Vegetation

3.3.9.1 Wetlands

The National Wetland Inventory (NWI) was searched for known wetlands within the Project area. According to the NWI, there are no delineated wetlands 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, the Round Valley Creek Ditch contains some riparian plants including willows and grasses. Riparian areas are also present after the Benediction Ditch diversion point, which are fed by the small springs that feed into the Round Valley Creek Ditch.

Figure 3-2
Round Valley Creek Ditch

Figure 3-3
Round Valley Creek Ditch

3.3.9.3 Noxious Weeds

Noxious weeds are plants that typically invade from other countries, leaving their natural controls and competitors behind (insects, diseases, grazers, and climate). They have adapted to grow and proliferate in human-disturbed areas.

The highest priority noxious weed species in Millard County are cheat grass (*Bromus tectorum*), Russian olive (*Elaeagnus angustifolia*), saltcedar (*Tamarisk* spp.), whitetop (*Lepidium draba* L.), thistle (*Cirsium* spp.), and knapweeds (*Centaurea* spp.). Although it is not a weed, the alfalfa stem nematode is having a serious negative impact on hay production. It is important to control undesirable and noxious plants for cropland as well as rangeland. Unfortunately, the spread of invasive plants such as cheat grass, mustards (*Brassica* spp.), and knapweeds, have degraded many thousands of acres of wildlife habitat and grazing lands.

The Utah Noxious Weed Act (Title 4, Chapter 17, Rule R68-09) provides for the control and management of noxious weeds in Utah. Millard County has a Weed Control Standard set forth in Code 5-3-2.

3.3.9.4 Existing Vegetation

Primary land cover type is the Inter-Mountain Big Sagebrush Shrubland. Predominant shrub and tree species that occur in the Project area consist of sagebrush and rabbitbrush, with limited cottonwoods and willow near the existing ditch. Large portions of the Project area, and immediately surrounding areas,

have been subjected to sagebrush and pinyon/juniper removal/treatment in the past.

3.3.9.5 No Action

Under the No Action Alternative, there would be no changes to the current conditions or additional effects to vegetation. Since no construction would occur, there would be no impacts to vegetation. Existing management and land use practices would continue. Existing management activities would include on-going maintenance and repair of existing facilities. There would be no changes to the current conditions.

3.3.9.6 Proposed Action

All construction activities would occur in areas previously disturbed by the development of existing facilities, farming and ranching practices, and roadways. The Round Valley Creek Ditch would essentially be dry below the pipeline inlet structure with the exception of where the three springs provide a small amount of variable flows in the ditch for a short distance. The ditch would remain open after construction to convey flows from the springs, the flows from the head gate leak during the non-irrigation season, any flows from the turnouts, and high spring runoff. If these flows are insufficient to maintain the existing riparian vegetation, die off would occur.

During construction, the disturbance to the soils along the pipeline alignment would be temporary and minimal. 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 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 regraded with the set aside topsoil, native seeds from grubbing, and organic matter replaced.

3.3.10 Fish and Wildlife Resources

3.3.10.1 Fish

The Round Valley Creek Ditch is an earth-lined ditch that carries irrigation water from Scipio Lake to the Benediction Ditch. There are no fish in the lake or creek as they are both operated for the sole purpose of providing irrigation water to the SIC's stockholders. Both the lake and ditch are dry for portions of the year. Depending on the year and water availability, the ditch is primarily dry until diversions start in April and may dry up as early as June or July. The only exception to this is the small unmeasured flow from Scipio Lake that leaks from the head guard gate, which provides some flow in the ditch during the non-irrigation season. The lake is emptied completely each year.

3.3.10.2 Small Mammals

Small mammals, such as the striped skunk (*Mephitis mephitis*), American badger (*Taxidea taxus*), ground squirrels (family *Sciuridae*), and jackrabbits (*Lepus* spp.), are inherent in rural, agricultural areas. These small mammals can use the upland habitat, as well as the agricultural properties and the lands in between to locate food resources and shelter.

3.3.10.3 Raptors

The Department of Natural Resources indicates that the bald eagle (*Haliaeetus leucocephalus*) has been observed within a ½-mile radius of the Project area. A large portion of a raptor's diet includes many of the small mammals that live in the open grasslands and agricultural lands within the Project area. However, a field survey on April 20, 2017, did not identify any suitable habitat. 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 Migratory and Other Birds

Records from the Department of Natural Resources indicated the burrowing owl, a sensitive species in Utah, has been observed within a 2-mile radius of the project area. The field survey on April 20, 2017, did not identify any suitable habitat.

3.3.10.5 Big Game

The Project area and adjacent lands support 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. The Project area is generally flat and may provide some wintering areas for mule deer as was observed by big game tracks on April 20, 2017. During the winter, elk are usually found in lower to mid-elevation habitats with mountain shrub and sagebrush vegetation. During summer, most mule deer habitat is located at higher elevations generally found in the forest areas west of the Project area.

3.3.10.6 No Action

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

3.3.10.7 Proposed Action

Based upon the timing stipulations of the Proposed Action and lack of suitable habitat, the Proposed Action would not be expected to have a detrimental long-term effect on any wildlife. The Round Valley Creek Ditch is dewatered annually after the irrigation season and does not provide a winter water source for big game other than the small amount of flow from the leak in the head guard gate and the three small springs. Construction activities would occur in or adjacent to areas that were previously disturbed by agricultural development. Construction would be in the late fall through early spring. Wildlife disturbance would be localized, temporary and minimal due to the lineal and fast moving nature of construction

activities. Revegetation in spring and early summer would likely occur fairly rapidly, which would minimize the disruption of habitat use by 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 as they currently do when vehicles, agricultural equipment, and off-highway vehicles (OHVs) use the area.

Displacement or harassment of migratory birds and raptors would be unlikely because there is no suitable habitat and the construction season would occur during the late fall, winter, and early spring, which is after and prior to times when birds are actively breeding in the area. Furthermore, the Project would ensure compliance with the Migratory Bird Treaty Act. In the event that construction activities occurred in the late spring/early summer or any time active breeding, nesting, or pre-fledging behavioral activities were happening, SIC would adhere to the USFWS Utah Raptor Guidelines, placing appropriate buffers on nests until fledging activities concluded. If nests of migratory birds were located during the construction process, a Reclamation biologist would be consulted and an appropriate buffer would be put in place. The removal of large trees is not anticipated to be necessary for the Project. The Project would be designed to avoid small trees where possible. The choice to utilize cattle watering areas for the inlet structure and crossing result in minimal impact because the areas are already disturbed and have little vegetation.

Effects to fish, small mammals, reptiles, and big game would be minimal. If the species were present during construction, only minor disturbance would occur. No suitable habitat is present and therefore, would not cause a trend toward Federal listing under the ESA. Overall, the direct and indirect effects to wildlife resources would be minimal. In addition, the long and short-term impacts to the habitat, natural water sources, and behavior would be minor.

3.3.11 Threatened, Endangered, and Sensitive Species

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

An information request from the Division of Wildlife Resources (DWR), Natural Heritage Program was made with results obtained on February 1, 2017. The DWR has record of occurrence for the bald eagle within a ½-mile radius of the Project area and the burrowing owl within a 2-mile radius. The results are based on data existing in the DWR central database. However, a field survey on April 20, 2017, did not identify any suitable habitat. 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.

The USFWS IPaC Trust Resource List (Appendix A) identifies three candidate, threatened, or endangered species with potential to occur in the study area: California condor (*Gymnogyps californianus*), Yellow-billed cuckoo (*Coccyzus americanus*), and Frisco clover (*Trifolium friscanum*). These three species are endangered, threatened, and candidate species, respectively. The California condor has final designated critical habitat, while the Yellow-billed cuckoo has proposed critical habitat; however, no critical habitat overlaps the Project area (IPaC List, Appendix A). Candidate species such as the Frisco clover do not have designated habitat. Table 3-2 lists the species along with habitat requirements and potential impact determination.

Table 3-2
ESA Listed Species with Potential Habitat in the Project Area

Species (common and scientific name)	Status	Habitat Description	Suitable Habitat in Project Area	Project Impact Determination
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.	Proposed	**No effect**
California condor *(Gymnogyps californianus)*	Endangered	Open terrain of foothill grassland and oak savanna habitats.	Final designated	**No effect**
Frisco clover *(Trifolium friscanum)*	Candidate	Restricted to soils derived from volcanic gravels. Soils are shallow, with gravels, rocks, and boulders on the surface.	None listed	**No effect**

U.S. Fish & Wildlife Service (2017, February 1)

3.3.11.1 No Action

Under the No Action Alternative, there would be no direct or indirect threats to the listed species or its proposed critical habitat due to no construction-related activities. There would be a continuation of existing management and land use practices. There would be no changes to the current conditions, and no impacts to threatened and endangered species within the Project area.

3.3.11.2 Proposed Action

Under the Proposed Action Alternative, based on the absence of suitable habitat as verified during a site visit on April 20, 2017, there would be no effect to threatened and endangered species.

3.3.12 Socioeconomics

The estimated population of Millard County, Utah, where the town of Scipio is located, increased from 12,405 to an estimated 15,582 in 2015, an increase of 1.4 percent (Figure 3-4) (U.S. Department of Commerce 2016). The estimated median household income in 2015 was $58,111; which is 26 percent higher than the statewide median income of $43,196. In Millard County, where Scipio is located, 12.9 percent of people and 9.3 percent of families were below the Federal poverty level (Figure 3-5). Scipio exhibits limited overall racial diversity, with 96 percent of residents classified as white and the next largest race being Native American at 2.77 percent. The average education level of Scipio residents is lower than the state average and is lower than the national average.

Figure 3-4

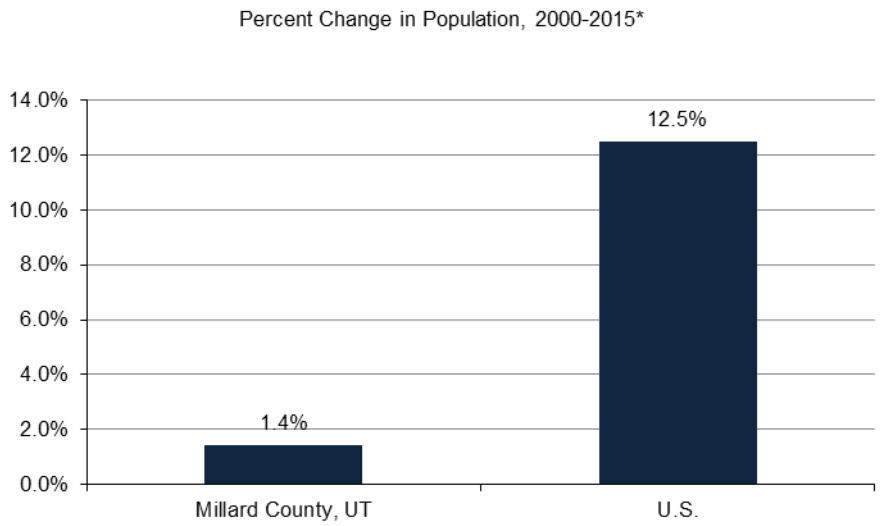
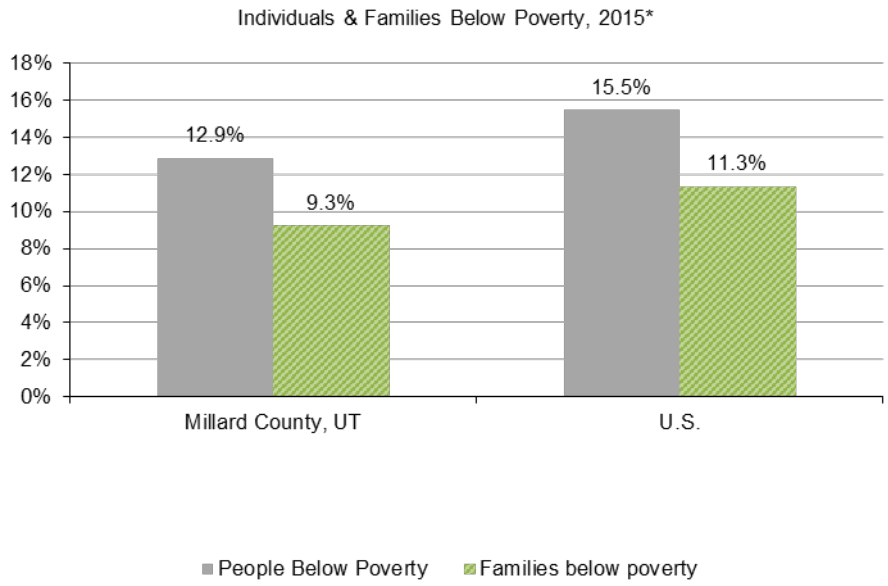


Figure 3-5



Figure

3.3.12.1 No Action

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

3.3.12.2 Proposed Action

There would be an increase in crop production to SIC stockholders, providing an economic benefit due to the implementation of the Proposed Action Alternative. It would help stabilize the economics and sustainability of the farming and ranching community. In addition to improved crop production of both hay and livestock, additional benefits include reduced use of Scipio Town's culinary water supply for outdoor irrigation and operation and maintenance costs by SIC would be reduced. The stockholders recently paid off an existing loan for its pressurized irrigation system, so this Project's payments would likely be covered by the existing assessments. If any increase would be necessary, it would not be significant.

The main crops are alfalfa and grains for forage, including a three-way mix of barley, wheat, and oats. Additional net income is the primary benefit as the stockholders' crop water shortage is reduced. An economic analysis by the DWRe states that the Project would increase yearly net farm income by an estimated $160,800 (Appendix B). The cost to operate and maintain the canal would be reduced by $4,000 annually. The economic analysis compared pre-Project conditions to post-Project conditions. Pre-Project, it used estimates of 1,800 acres of alfalfa harvested over two cuttings with a yield of 4.2 tons per acre and a value of $170 per ton, plus 400 acres of grass hay with a yield of 2.8 tons per acre at $57 per ton. Post-Project, acres of alfalfa would increase to 2,000 and the yield would increase to 4.5 tons per acre. Acres of grass hay would double, to 800 acres, and the yield would increase to 3 tons per acre. This would result in a

net crop value increase of $160,844.50. The full economic analysis information is included in Appendix B.

There would be no changes to the land uses other than the possibility of returning fallowed lands to production, thereby creating no negative effect to the socioeconomics of the community. The proposed Project would not adversely affect low income or minority populations. Positive economic benefits would result from the Proposed Action.

3.3.13 Access and Transportation

The Project area, remotely located, can be accessed from Highway 50 via Interstate 15 as shown in Figure 3-6. Highway 50 is a 2-lane road from the exit at I-15 down past Scipio Lake. Highway 50 is currently used to access the ditch for operation and maintenance and would continue to be used under the No Action Alternative. Under the Proposed Action, vehicles transporting heavy construction equipment, pipe, and construction materials and equipment would be delivered to the Project site via this route. The staging areas identified in Figure 2-2 would be used to store the equipment and supplies.

3.3.13.1 No Action

Under the No Action Alternative, there would be no adverse effects to access and transportation as no changes would occur.

3.3.13.2 Proposed Action

The Project would have minor short-term effects on access and transportation during construction primarily at the start and finish of the Project. The proposed pipeline does not cross Highway 50 and it will not cause any closures. Possible delays on Highway 50 due to slower moving construction traffic may be a factor intermittently at the beginning and end of the Project during mobilization. Near the start of the unpaved county road off Highway 50, the proposed pipeline alignment would temporarily impact this road. The only road impacted during construction would be an infrequently used, unpaved county road. It would be temporarily shut down so the pipeline could be installed using an open cut method, possibly for 1 to 2 days. Signs indicating the closure would be posted to notify users of its impending closure. The road would be repaired following pipe installation. The Proposed Action would have minor short-term effects during construction. After the project is built, there would be no long-term effects on transportation, roads, or public safety.

3.3.14 Water Rights

The SIC holds three water rights for water in Round Valley Creek and underground wells. These water rights, shown in Table 3-3, are supplemental to each other for the irrigation on a total of 4,945.7 acres. Although the SIC possesses these water rights, the availability of that water varies. Often, they are only available during the peak flow periods of late spring. The water supply for

Scipio Lake decreases dramatically in the later summer season. Scipio Lake Reservoir has a capacity of 10,400 acre-feet at the spillway crest. Scipio Irrigation Company has the right to store 6,586 acre-feet under water right No. 66-1011. Water right No. 66-55 allows for an additional 3,814 acre-feet of storage. There are no water rights for stock watering on Round Valley Creek for SIC or any other user. However, the watering of stock from the ditch has occurred for many years by adjacent landowners and individuals with grazing rights on BLM and SITLA land.

Table 3-3
SIC's Water Rights

Water Right	Held by	Flow (cfs)	Acre-Feet	Priority Date	Source
66-55	BWR SIC	12	3814.0	7/26/1988	Underground wells
66-1011	BWR SIC	83.09	14507.9	1860	Round Valley Creek
66-173	BWR SIC	2.255	1632.6	9/22/1955	Underground wells

3.3.14.1 No Action

Under the No Action Alternative, the Project would not be built. This would have no effect on water rights.

3.3.14.2 Proposed Action

Under the Proposed Action Alternative, there would be no changes to the allowed beneficial uses or place of use for SIC water rights. However, the conserved water would allow SIC to more fully utilize its water rights due to elimination of losses associated with seepage and evaporation. A change application would be submitted to the DWRi to add a point of diversion for the pipeline inlet structure as well as the point of re-diversion into the Benediction Ditch at the outlet structure. The SIC has the only points of diversion between Scipio Lake Reservoir and the Benediction Ditch along Round Valley Creek Ditch; therefore, there would be no impacts to other individuals for changing the point of diversion to further upstream. Although no stock watering rights exist on the Round Valley Creek Ditch and SIC has no legal obligation to provide stock water, SIC is sensitive to the need for water for livestock during the period when water has typically been released to the ditch. Turnouts from the pipeline would release water to troughs when the pipeline is conveying water. These troughs would provide water for livestock during the period of time when water was typically in the ditch.

3.4 Indian Trust Assets

The ITAs are legal interests in property held in trust by the United States for Federally recognized Indian Tribes or Indian individuals. Assets can be real property, physical assets, or intangible property rights, such as lands, minerals,

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

3.5 Environmental Justice

Executive Order 12898, established Environmental Justice as a Federal agency priority to ensure that minority and low-income groups are not disproportionately affected by Federal actions. Implementation of the No Action or Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the Project area. The reason for this is that the proposed Project would not involve major facility construction, population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. This action would therefore have no adverse human health or environmental effects on minority and low-income populations.

3.6 Cumulative Effects

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

Based on 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 3-4 summarizes environmental effects under the No Action and the Proposed Action Alternatives.

Table 3-4
Summary of Environmental Effects

Project Resource	No Action	Proposed Action
Geology and Soils Resources	No Effect	Minor Temporary Impacts
Visual Resources	No Effect	Minor Temporary Impacts
Cultural Resources	No Effect	No Adverse Effect
Hydrology	No Effect	No Effect
Water Quality	No Effect	Minor Temporary Impacts
System Operations	No Effect	No Effect
Health, Safety, Air Quality, and Noise	No Effect	Minor Temporary Impacts
Flood Plains	No Effect	No Effect
Wetland, Riparian, Noxious Weeds, and Existing Vegetation	No Effect	Potential Adverse Effect to Riparian Vegetation
Fish and Wildlife Resources	No Effect	Minor Temporary Impacts
Threatened and Endangered Species, Sensitive Species	No Effect	Minor Temporary Impacts
Socioeconomics	No Effect	No Effect
Access and Transportation	No Effect	No Effect
Water Rights	No Effect	No Effect

Chapter 4 Environmental Commitments

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

4.1 Environmental Commitments

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

1. **Standard Reclamation Best Management Practices** - BMPs 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. The Project will comply with all requirements set forth in any formal Section 7 consultation with USFWS. Excavated material and construction debris may not be wasted in any stream or river channel in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at a Reclamation-approved upland site, well away from any channel. Construction materials, bedding material, excavation material, etc. may not be stockpiled in riparian, wetland, or water channel areas. 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 construction areas are required outside the areas analyzed in this EA, additional environmental analyses may be necessary.

3. **Fugitive Dust Control Permit** - The Division of Air Quality regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than one-quarter of an acre. UAC R307-205-5, requires steps be taken to minimize fugitive dust from construction activities. Sensitive receptors include those individuals working at the site or motorists that could be affected by changes in air quality due to emissions from the construction activity.

4. **Cultural Resources** - In the case that any cultural resources, either on the surface or subsurface, are discovered during construction, Reclamation's Provo Area Office archaeologist shall be notified, and construction in the area of the inadvertent discovery will cease until an assessment of the resource and recommendations for further work can be made by a professional archaeologist.

5. **Human Remains** - Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on Federal land, 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 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).

6. **Wildlife Resources** – The SIC will adhere to the USFWS Migratory Bird Protection Guidelines.

    a. Migratory Bird Protection

        i. Perform any ground-disturbing activities or vegetation treatments before migratory birds begin nesting or after all young have fledged.

        ii. If activities must be scheduled to start during the migratory bird breeding season, take appropriate steps to prevent migratory birds from establishing nests in the potential impact area. These steps could include covering equipment and structures, and use of various excluders (e.g., noise). Prior to nesting, birds can be harassed to prevent them from nesting on the site.

        iii. If activities must be scheduled during the migratory bird breeding season, a site-specific survey for nesting prior to groundbreaking activities or vegetation treatments must be done. Established nests with eggs or young cannot be moved, and the birds cannot be harassed (see ii., above), until all young have fledged and are capable of leaving the nest site.

        iv. If nesting birds are found during the survey, appropriate spatial buffers should be established around nests. Vegetation treatments or ground-disturbing activities within the buffer areas should be postponed until the birds have left the nest.

Confirmation that all young have fledged should be made by a qualified biologist.

b. Raptor Protection – The SIC will adhere to the USFWS Raptor Guidelines by placing seasonal and special "no construction" buffers, along with daily timing restrictions, around all active raptor nests or winter roosting bald eagles. If unknown nests are located during construction, the same guidelines will be implemented. Raptor protection measures will be implemented to provide full compliance with environmental laws. Locations of existing raptor nests and eagle roosting areas will be identified prior to the initiation of Project activities. Appropriate spatial buffer zones of inactivity will be established during breeding, nesting, and roosting periods. Arrival at nesting sites can occur as early as December for certain raptor species. Nesting and fledging can continue through August. Wintering bald eagles may roost from November through March.

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

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

9. **Public Access** - Construction sites will be closed to public access. Temporary fencing, along with signs, will be installed to prevent public access. The SIC will coordinate with contractor personnel, as necessary, to ensure public safety.

10. **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 having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes will be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas will be required. 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 all of these entities in the planning process. The NEPA requires full disclosure about major actions taken by Federal agencies and accompanying alternatives, impacts, and potential mitigation of impacts.

Table 5-1
Consultation List for EA Preparation

Name	Purpose & Authorities for Consultation or Coordination	Contacts
U.S. Fish and Wildlife Service	Consultation under Section 7 of the ESA (16 USC 1531)	The USFWS was contacted for possible endangered species issues. An IPaC request was made on January 30, 2017.
Utah Division of Wildlife Resources	Consult with DWR as the agency with expertise on wildlife and ESA; searched database for wildlife and ESA species; easement	Contacted Sarah Lindsey: sarahlindsey@utah.gov Data request response letter received on February 1, 2017.
Utah Division of Water Rights	Stream Alteration Permit	Chuck Williamson charleswilliamson@utah.gov 801-538-7404
Utah Geological Survey	Consulted with Utah Geologic Survey concerning the paleontological sensitivity of the Project area	Contacted Martha Hayden

5.2 Public Involvement

On November 18, 2016, notification was mailed to all SIC stockholders regarding the annual meeting, which was held on December 5, 2016. The letter stated that a final vote would occur on the Project. At the meeting, 91.8 percent of the shares were represented. Of these shares, 68.4 percent voted to move forward with the Project. A copy of the letter and the meeting minutes are in Appendix C.

On May 22, 2017, Reclamation mailed 204 letters to stockholders and property owners along the pipeline alignment, and interested public, as well as State and Federal agencies, notifying them of the Project. The mailed letters also included an invitation to participate in a 30-day public comment period on the Draft EA and to a public meeting on June 6, 2017. All comments will be considered and addressed in the Final EA. Comments will be maintained in the Project administrative record and available for public review.

5.3 Native American Consultation

Reclamation conducted Native American consultation throughout the public involvement process. A consultation letter and copy of the Class III Cultural Resource Inventory Report was sent to Confederated Tribes of the Goshute Reservation, Nevada and Utah, Paiute Indian Tribe of Utah, and Ute Indian Tribe of the Uintah and Ouray Reservation, Utah on May 1, 2017. This consultation was conducted in compliance with 36 CFR 800.2(c)(2) on a government-to-government basis. Through this effort, the tribe is given a reasonable opportunity to identify any concerns about historic properties; to advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance; to express their views on the effects of the Proposed Action on such properties; and to participate in the resolution of adverse effects.

5.4 Utah Geological Survey

The Utah Geological Survey (UGS) was contacted on February 17, 2017. The assistant to the State Paleontologist reviewed the Project area and determined that there are no paleontological localities recorded and it would have a low probability to be a paleontological sensitive area.

5.5 Utah State Historic Preservation Office

A copy of the Class III Cultural Resource Inventory Report and a determination of historic properties affected for the Proposed Action were submitted to SHPO on April 28, 2017. In a letter dated May 11, 2017, SHPO concurred with the determination.

5.6 Bureau of Indian Affairs

The Bureau of Indian Affairs is contacted when ITAs are affected by a Proposed Project. In this case, no ITAs are located near the Proposed Project. Therefore, no consultation with the Bureau of Indian Affairs was necessary.

5.7 U.S. Fish and Wildlife Service

The USFWS was contacted on January 30, 2017, and an official IPaC report, Consultation Code: 06E23000-2017-SLI-0137, was obtained.

5.8 U.S. Army Corps of Engineers

The SIC is applying for two stream alteration permits for the diversion location and where the pipeline crosses Round Valley Creek Ditch.

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, Federal and state agencies, and SIC board members.

Table 6-1
Environmental Summary Preparers

Name	Title	Company
Ms. Monique Robbins	Senior Engineer, Project Manager, Writing, Editing	Franson Civil Engineers, Inc.
Ms. Syanna Madsen	Archaeologist	Bighorn Archaeological Consultants, LLC
Mr. Chris Jensen	Wildlife Biologist	Canyon Environmental

Table 6-2
Reclamation Team Members

Name	Title	Company
Ms. Linda Morrey	Secretary	U.S. Bureau of Reclamation
Mr. Rick Baxter	Manager, Water, Environmental, and Lands Division Manager	U.S. Bureau of Reclamation
Mr. Jared Baxter	Fish and Wildlife Biologist, ESA Coordinator	U.S. Bureau of Reclamation
Mr. Peter Crookston	Chief, Environmental Group	U.S. Bureau of Reclamation
Mr. Jeff Hearty	Economist	U.S. Bureau of Reclamation
Mr. Rick Jones	Fish and Wildlife Biologist	U.S. Bureau of Reclamation
Mr. Zachary Nelson	Archaeologist	U.S. Bureau of Reclamation
Mr. Justin Record	Water Rights	U.S. Bureau of Reclamation
Mr. David Snyder	Fish and Wildlife Biologist, CWA Coordinator	U.S. Bureau of Reclamation
Mr. Spencer Strand	Geologist	U.S. Bureau of Reclamation

Table 6-3
Federal, State or Board Members

Name	Title	Company
Mr. Dallen Quarnberg	President	Scipio Irrigation Company
Ms. Sarah Lindsey	Senior GIS Analysist	Utah Division of Wildlife Resources
Ms. Martha Hayden	Assistant State Paleontologist	Utah Geological Survey

Chapter 7 Acronyms and Abbreviations

Acronym/Abbreviation	Meaning
APE	Area of Potential Effects
Bighorn	Bighorn Archaeological Consultants, LLC
BLM	Bureau of Land Management
BMPs	Standard Reclamation Best Management Practices
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
CWA	Clean Water Act
DEQ	State of Utah Department of Environmental Quality
DWR	State of Utah Division of Wildlife Resources
DWRe	State of Utah Division of Water Resources
DWRi	State of Utah Division of Water Rights
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
HDPE	High Density Polyethylene
ITA	Indian Trust Assets
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OHV	Off Highway Vehicles
Project	Scipio Irrigation Company Ivie Creek Pipeline Project - WaterSMART
Reclamation	U.S. Bureau of Reclamation
SHPO	Utah State Historic Preservation Office
SIC	Scipio Irrigation Company
SITLA	Utah School and Institutional Trust Lands Administration
SOP	Standard Operating Procedures
SWPPP	Storm Water Pollution Prevention Plan
UAC	Utah Administrative Code
UGS	Utah Geological Survey
UPDES	Utah Pollutant Discharge Elimination System

Acronym/Abbreviation	Meaning
USFWS	U.S. Fish and Wildlife Service
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers

Chapter 8 References

Department of Environmental Quality, Division of Water Quality, June 15, 2006. Utah 2006 Integrated Report, Volume I-305(b) Assessment.

DWR Natural Heritage Program, Information request results obtained on February 1, 2017

Jensen, Chris, 2017. *Biological Evaluation of the Scipio Irrigation Company Ivie Creek Pipeline Project.* Canyon Environmental, L.L.C. Provo, Utah.

Madsen, Syanna T. and Jon R. Baxter, 2017. *A Cultural Resource Inventory for the Proposed Scipio Irrigation Company Water Conservation Project South of Scipio, Millard County, Utah*. Bighorn Archaeological Consultants, L.L.C. Orem, Utah.

Millard County Resource Assessment, March 2013 https://uacdzone4.files.wordpress.com/2015/02/7-18-millard-county-2013-resource-assessment.pdf

Soil Survey, Richfield Area, Utah, Series 1944, No. 9, United States Department of Agriculture, Issued February 1958 https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/utah/richfieldareaUT1958/richfieldareaUT1958.pdf

United States Geological Survey, Scipio South Quadrangle

United States Geological Survey, Water-Supply Paper 277, Ground Water in Juab, Millard, and Iron Counties, Utah 1911 https://pubs.er.usgs.gov/publication/wsp277

Utah DEQ Interactive Map http://enviro.deq.utah.gov/

USFWS, IPaC Report obtained on January 30, 2017

U.S. Department of Commerce. 2016. Census Bureau, American Community Survey Office, Washington, D.C., as reported in Headwaters Economics' Economic Profile System (headwaterseconomics.org/eps).

U.S. Department of Commerce. 2000. Census Bureau, Systems Support Division, Washington, D.C., as reported in Headwaters Economics' Economic Profile System (headwaterseconomics.org/eps).

U.S. Drought Monitor website, accessed date January 12, 2017, web address: http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?UT

Chapter 9 Appendices

Appendix A: IPaC Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Utah Ecological Services Field Office
2369 WEST ORTON CIRCLE, SUITE 50 WEST VALLEY CITY, UT 84119
PHONE: (801)975-3330 FAX: (801)975-3331
URL: www.fws.gov; www.fws.gov/utahfieldoffice/

Consultation Code: 06E23000-2017-SLI-0137 January 30, 2017
Event Code: 06E23000-2017-E-00346
Project Name: Ivie Creek Pipeline Project

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

Attachment

Official Species List

Provided by:

Utah Ecological Services Field Office
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UT 84119
(801) 975-
3330
http://www.fw
s.gov
http://www.fw
s.gov/utahfield
office/

Consultation Code: 06E23000-2017-SLI-0137
Event Code: 06E23000-2017-E-00346

Project Type: AGRICULTURE

Project Name: Ivie Creek Pipeline Project
Project Description: Scipio Irrigation Company piping project

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

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-112.07903495025221 39.17353022280365, -112.07887112110802 39.17168141572544, -112.08006254735184 39.16976198346021, 112.0798952388166 39.16697314989105, -112.07648169477619 39.16048926565009, -112.06876531783811 39.15064964895223, -112.06609091556884 39.14736744197299, -112.06235063214974 39.1354385645242, -112.0593089343019 39.1294901845612, 112.0593005449848 39.12938552405523, -112.05936861899528 39.12930558575873, 112.05947327950125 39.12929719644163, -112.05955321779774 39.129365270452105, -112.06260897400317 39.13534543807222, -112.06633470650969 39.147236161193895, -112.06898040076199 39.15047929919063, -112.07670516272486 39.160329608138305, -112.08015235641594 39.16687310809869, -112.08033783325882 39.169817313807734, -112.07914144784509 39.17176023921645, -112.07930931854665 39.173523683785255, -112.07930931854665 39.17691709496078, -112.07926913824019 39.17701409880155, -112.07917213439943 39.177054279108, -112.07907513055866 39.17701409880155, 112.07903495025221 39.17691709496078, -112.07903495025221 39.17353022280365))) **Project Counties:** Millard, UT

Endangered Species Act Species List

There are a total of 3 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
California condor *(Gymnogyps californianus)* Population: U.S.A. only, except where listed as an experimental population	Endangered	Final designated	
Yellow-Billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS	Threatened	Proposed	
Flowering Plants			
Frisco clover *(Trifolium friscanum)* Population: Wherever found	Candidate		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix B: Utah Division of Water Resources Economic Analysis

ECONOMIC FEASIBILITY:

Benefits from the project occur primarily as additional net income to project farmers as their crop water shortage is reduced. The increased conveyance efficiency in the Scipio Irrigation Company system is estimated to increase yearly net farm income by $160,800. In addition, the cost to operate and maintain the canal will be reduced by $4,000 annually. When all benefits and costs were discounted to present value, using a discount rate of 4.90 percent over the project life of 50 years, the benefit to cost ratio is 1.06.

Scipio Irrigation Company

7/7/2016

Discount Rate	0.049
Construction Cost ($)	2,951,000
Replacement Cost ($)	151,000
Sinking Fund Factor 25 yrs.	0.0212

Year	Increased Net Income ($)	Reduced Pumping ($)	Reduced O&M ($)	Replacement Cost ($)	Construction Cost ($)	Incremental Net Benefit	Present Value
1	160,844	-	4,000	3,201	2,951,000	(2,789,357)	(2,659,063)
2	160,844	-	4,000	3,201		161,643	(2,512,169)
3	160,844	-	4,000	3,201		161,643	(2,372,136)
4	160,844	-	4,000	3,201		161,643	(2,238,644)
5	160,844	-	4,000	3,201		161,643	(2,111,388)
6	160,844	-	4,000	3,201		161,643	(1,990,076)
7	160,844	-	4,000	3,201		161,643	(1,874,431)
8	160,844	-	4,000	3,201		161,643	(1,764,187)
9	160,844	-	4,000	3,201		161,643	(1,659,094)
10	160,844	-	4,000	3,201		161,643	(1,558,909)
11	160,844	-	4,000	3,201		161,643	(1,463,404)
12	160,844	-	4,000	3,201		161,643	(1,372,360)
13	160,844	-	4,000	3,201		161,643	(1,285,569)
14	160,844	-	4,000	3,201		161,643	(1,202,832)
15	160,844	-	4,000	3,201		161,643	(1,123,960)
16	160,844	-	4,000	3,201		161,643	(1,048,772)
17	160,844	-	4,000	3,201		161,643	(977,096)
18	160,844	-	4,000	3,201		161,643	(908,768)
19	160,844	-	4,000	3,201		161,643	(843,632)
20	160,844	-	4,000	3,201		161,643	(781,538)
21	160,844	-	4,000	3,201		161,643	(722,345)
22	160,844	-	4,000	3,201		161,643	(665,917)
23	160,844	-	4,000	3,201		161,643	(612,125)
24	160,844	-	4,000	3,201		161,643	(560,845)
25	160,844	-	4,000	3,201		161,643	(511,961)
26	160,844	-	4,000	3,201		161,643	(465,360)
27	160,844	-	4,000	3,201		161,643	(420,936)
28	160,844	-	4,000	3,201		161,643	(378,587)
29	160,844	-	4,000	3,201		161,643	(338,216)
30	160,844	-	4,000	3,201		161,643	(299,731)
31	160,844	-	4,000	3,201		161,643	(263,044)
32	160,844	-	4,000	3,201		161,643	(228,070)
33	160,844	-	4,000	3,201		161,643	(194,730)
34	160,844	-	4,000	3,201		161,643	(162,948)
35	160,844	-	4,000	3,201		161,643	(132,650)
36	160,844	-	4,000	3,201		161,643	(103,767)
37	160,844	-	4,000	3,201		161,643	(76,233)
38	160,844	-	4,000	3,201		161,643	(49,986)
39	160,844	-	4,000	3,201		161,643	(24,964)
40	160,844	-	4,000	3,201		161,643	(1,112)
41	160,844	-	4,000	3,201		161,643	21,627
42	160,844	-	4,000	3,201		161,643	43,303
43	160,844	-	4,000	3,201		161,643	63,967
44	160,844	-	4,000	3,201		161,643	83,665
45	160,844	-	4,000	3,201		161,643	102,444
46	160,844	-	4,000	3,201		161,643	120,345
47	160,844	-	4,000	3,201		161,643	137,410
48	160,844	-	4,000	3,201		161,643	153,678
49	160,844	-	4,000	3,201		161,643	169,186
50	160,844	-	4,000	3,201		161,643	183,970
SUM	8,042,200	-	200,000	160,060	2,951,000	5,131,140	
NPV	2,982,314	-	74,167	59,356	2,813,155	183,970	
		Benefit/cost Ratio		1.06			

Economic Analysis Worksheet

Project:

Crop Production Costs and Benefits

Crop		Acres	Per-cent	Yield per Acre		Unit Price	Return per Acre	Prop. Taxes	Water Cost	Fixed & Varib. Costs	Int. Oper. Cap.	Total Cash Cost	Net Return Water	Wt Net Return Water
Pre-Project														
Alfalfa	2 Cutting	1800.	82.	4.2	Ton	170.00	713.31	10.00	10.00	221.71	9.98	251.69	461.63	377.70
Grass Hay Alfalfa	1 Cutting	400.	18.	2.8	Ton	57.00	160.64	10.00	10.00	191.04	8.60	219.64	-59.00	-10.73
	Total =	2200.											Total =	366.97
Project														
Alfalfa	2 Cutting	2000.	71.	4.5	Ton	170.00	761.17	10.00	10.00	225.93	10.17	256.10	505.07	360.76
Alfalfa	1 Cutting	800.	29.	3.0	Ton	57.00	169.67	10.00	10.00	193.42	8.70	222.12	-52.45	-14.99
	Total =	2800.											Total =	345.78

Cropland Consumptive use from Diversions

Project	4069.
Pre-Project	3044.
Increase	1025. ac-ft

Return to Water per ac-ft Increased CU =$156.92

Total Return to Water ($)

Project	968174.19
Pre-Project	807329.69
Return to Water $	160844.50

← Increase in crop value

Return to Water per Project Acre =$ 57.44

Hydrologic Data and Analysis

Pre-Project Conditions:

Irrigation Efficiencies Conveyance =0.49 On Farm =0.70 Combined =0.34

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Cropland Climatic Data													
KT Coefficient	0.30	0.30	0.35	0.48	0.63	0.78	0.93	0.88	0.72	0.51	0.32	0.30	
Daylight Hours	6.75	6.93	8.29	8.91	9.99	10.05	10.21	9.53	8.36	7.72	6.71	6.55	
Temperature	23.72	30.80	38.39	46.07	54.66	63.17	71.78	69.00	59.91	47.80	36.81	25.94	47.34
Precipitation	1.03	1.21	1.34	1.27	1.26	0.86	0.83	1.17	1.15	1.40	1.17	1.24	13.94
Water Supply													
Primary	0.	0.	0.	453.	2977.	2756.	2466.	2032.	610.	0.	0.	0.	11294.
Secondary	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
Total	0.	0.	0.	453.	2977.	2756.	2466.	2032.	610.	0.	0.	0.	11294.
Diversion Requirement	0.	0.	0.	24.	1292.	2619.	3678.	2477.	1164.	0.	0.	0.	11254.
Water Shortage													
Root Zone	0.	0.	0.	0.	0.	0.	416.	211.	190.	0.	0.	0.	816.
Point of Diversion	0.	0.	0.	0.	0.	0.	1212.	614.	554.	0.	0.	0.	2380.
Crop Soil Moisture													
Alfalfa 2 Cutting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Alfalfa 1 Cutting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Crop Acreage													
Alfalfa 2 Cutting	0.	0.	0.	1800.	1800.	1800.	1475.	1475.	943.	943.	0.	0.	
Alfalfa 1 Cutting	0.	0.	0.	0.	400.	400.	0.	0.	0.	0.	0.	0.	
KC Coefficient													
Alfalfa 2 Cutting	0.63	0.73	0.86	0.99	1.08	1.13	1.11	1.06	0.99	0.91	0.78	0.64	
Alfalfa 1 Cutting	0.63	0.73	0.86	0.99	1.08	1.13	1.11	1.06	0.99	0.91	0.78	0.64	
Consumptive Use													
Alfalfa 2 Cutting	0.000	0.000	0.000	0.089	0.310	0.466	0.629	0.511	0.299	0.000	0.000	0.000	
Alfalfa 1 Cutting	0.000	0.000	0.000	0.000	0.173	0.466	0.629	0.253	0.000	0.000	0.000	0.000	

Hydrologic Data and Analysis

Project Conditions:

Irrigation Efficiencies Conveyance =0.70 On Farm =0.70 Combined =0.49

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Cropland Climatic Data													
KT Coefficient	0.30	0.30	0.35	0.48	0.63	0.78	0.93	0.88	0.72	0.51	0.32	0.30	
Daylight Hours	6.75	6.93	8.29	8.91	9.99	10.05	10.21	9.53	8.36	7.72	6.71	6.55	
Temperature	23.72	30.80	38.39	46.07	54.66	63.17	71.78	69.00	59.91	47.80	36.81	25.94	47.34
Precipitation	1.03	1.21	1.34	1.27	1.26	0.86	0.83	1.17	1.15	1.40	1.17	1.24	13.94
Water Supply													
Primary	0.	0.	0.	453.	2977.	2756.	2466.	2032.	610.	0.	0.	0.	11294.
Secondary	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
Total	0.	0.	0.	453.	2977.	2756.	2466.	2032.	610.	0.	0.	0.	11294.
Diversion Requirement	0.	0.	0.	19.	1069.	2333.	3277.	2053.	906.	0.	0.	0.	9657.
Water Shortage													
Root Zone	0.	0.	0.	0.	0.	0.	397.	121.	145.	0.	0.	0.	663.
Point of Diversion	0.	0.	0.	0.	0.	0.	811.	247.	296.	0.	0.	0.	1353.
Crop Soil Moisture													
Alfalfa 2 Cutting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Alfalfa 1 Cutting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Crop Acreage													
Alfalfa 2 Cutting	0.	0.	0.	2000.	2000.	2000.	2000.	2000.	1347.	1347.	0.	0.	
Alfalfa 1 Cutting	0.	0.	0.	0.	800.	800.	107.	107.	0.	0.	0.	0.	
KC Coefficient													
Alfalfa 2 Cutting	0.63	0.73	0.86	0.99	1.08	1.13	1.11	1.06	0.99	0.91	0.78	0.64	
Alfalfa 1 Cutting	0.63	0.73	0.86	0.99	1.08	1.13	1.11	1.06	0.99	0.91	0.78	0.64	
Consumptive Use													
Alfalfa 2 Cutting	0.000	0.000	0.000	0.089	0.310	0.466	0.629	0.511	0.299	0.000	0.000	0.000	
Alfalfa 1 Cutting	0.000	0.000	0.000	0.000	0.173	0.466	0.629	0.253	0.000	0.000	0.000	0.000	

Appendix C: Meeting Notifications and Minutes

2016 Pipeline Vote

Updated Dec 5 2016

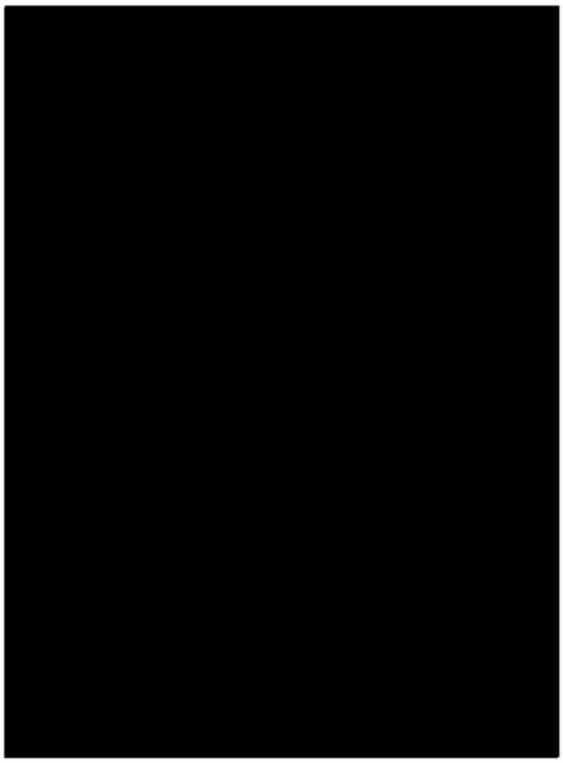
Share Holder	Paid by	City shares	Field Shares	Total Shares	yes	no
[redacted]	[redacted]	3.75	0	3.75	0	0
		2.5	0	2.5	2.5	0
		2.5	0	2.5	0	0
		2.5	0	2.5	2.5	0
		0	158.5	158.5	158.5	0
		3	0	3	0	0
		1.25	0	1.25	0	0
		1.25	0	1.25	1.25	0
		2.5	0	2.5	0	0
		1.5	0	1.5	0	0
		2.5	0	2.5	0	0
		2.5	0	2.5	0	0
		1.25	0	1.25	1.25	0
		1.25	0	1.25	1.25	0
		1.25	0	1.25	0	0
		3	0	3	0	0
		0.25	0	0.25	0	0
		1.25	0	1.25	0	0
		2.5	0	2.5	0	0
		1.25	0	1.25	0	0
		1.25	0	1.25	0	0
		1.25	0	1.25	0	0
		0	30.5	30.5	30.5	0
		1.25	0	1.25	0	0
		1.25	0	1.25	0	0
		6.25	7.75	14	0	0
		0	10	10	0	0
		1.5	0	1.5	0	0
		1.25	0	1.25	1.25	0
		1.25	0	1.25	0	0
		3.75	45	48.75	48.75	0
		1.25	0	1.25	0	0
		2.25	0	2.25	0	2.25
		1.25	0	1.25	0	0
		0	118.03	118.03	118.03	0
		3.25	0	3.25	3.25	0
		2.5	0	2.5	0	0
		1.25	0	1.25	0	0
		1.25	0	1.25	0	0
		2.5	0	2.5	0	0
		0	10	10	0	0
		3	0	3	0	0
		2.5	0	2.5	2.5	0

[redacted]

1.5	0	1.5	1.5	0
2.5	0	2.5	0	0
5	0	5	5	0
0	29.5	29.5	29.5	0
0.3	0	0.3	0	0
2.5	5.5	8	0	0
2.5	0	2.5	0	0
5	0	5	5	0
2.5	0	2.5	0	0
2.5	0	2.5	2.5	0
1.25	0	1.25	0	0
2.5	0	2.5	0	0
2.5	41.5	44	0	44
0	32.5	32.5	0	32.5
3.75	5.25	9	0	9
2.5	0	2.5	2.5	0
3.75	5.25	9	0	9
1.25	0	1.25	1.25	0
0	2.25	2.25	0	2.25
2.25	0	2.25	0	0
0	3.28	3.28	0	0
8.25	177.08	185.33	0	185.33
0	21.583	21.583	0	21.583
1.25	0	1.25	0	0
2.5	0	2.5	2.5	0
0	23	23	23	0
2.5	0	2.5	0	0
0	34.32	34.32	34.32	0
2.5	0	2.5	0	0
5	141.383	146.383	146.383	0
3.75	2.5	6.25	0	6.25
2.5	9	11.5	0	11.5
2.5	0	2.5	2.5	0
2.5	0	2.5	0	2.5
2.5	0	2.5	2.5	0
6.25	79.3	85.55	85.55	0
1.25	5	6.25	6.25	0
5	187.78	192.78	192.78	0
1.25	0	1.25	1.25	0
1.25	0	1.25	1.25	0
0	2.5	2.5	2.5	0
5	0	5	0	0
2.5	0	2.5	0	0
5	33.5	38.5	38.5	0
2	5	7	7	0
5	70.025	75.025	75.025	0
7.25	83.025	90.275	90.275	0

[redacted]

			4/20	
2.5	0	2.5	2.5	0
3.75	4.5	8.25	0	0
2.5	0	2.5	0	0
1.25	0	1.25	0	0
0	5	5	0	0
1.25	0	1.25	1.25	0
2.5	0	2.5	0	0
1.25	0	1.25	0	0
2.5	0	2.5	0	0
5	0	5	0	0
2.5	75.867	78.367	78.367	0
2.5	0	2.5	0	0
5	141.083	146.083	0	146.083
2.5	0	2.5	0	0
0	49.5	49.5	49.5	0
5	56.5	61.5	61.5	0
1	13.2	14.2	0	0
3.5	7.086	10.586	0	10.586
3.75	60.25	64	0	64
2.75	44.1	46.85	46.85	0
1.25	0	1.25	0	1.25
8.75	41.33	50.08	0	50.08
3.75	0	3.75	0	3.75
0	18.15	18.15	18.15	0
2.5	0	2.5	0	0
2.5	0	2.5	0	0
2.5	0	2.5	0	2.5
2.5	32	34.5	0	34.5
0	102.12	102.12	0	102.12
7.5	0	7.5	0	0
5	0	5	0	0
2	0	2	0	0
2.5	0	2.5	0	0
2.5	2	4.5	0	0
2.5	0	2.5	0	0
7.4	98.05	105.45	105.45	0
2.5	67.33	69.83	0	69.83
5	74.3	79.3	79.3	0
1.25	0	1.25	0	0
6.75	0	6.75	0	0
1.25	0	1.25	0	0
11.25	0	11.25	11.25	0
4.5	46	50.5	50.5	0
1.25	0	1.25	0	0
2.5	0	2.5	0	0
2.5	0	2.5	2.5	0
1.2	35	36.2	0	36.2



			1420	1170
1.25	0	1.25	0	0
2.5	0	2.5	0	0
2.5	0	2.5	0	2.5
2.5	0	2.5	0	0
8.25	0	8.25	8.25	0
2.5	69.5	72	72	0
2.5	69.5	72	72	0
0	40	40	40	0
2.5	0	2.5	0	0
2.5	0	2.5	0	0
1.25	0	1.25	0	0
1.25	0	1.25	0	0
1.25	0	1.25	0	0
0	7	7	0	0
2.5	0	2.5	2.5	0
1.25	0	1.25	0	0
0	2	2	0	0
1.25	0	1.25	0	0
2.5	0	2.5	2.5	0
381.65	2541.172	2922.822	**1834.73**	**849.562**
			68.35 %	
381.65	2541.172	2922.822		