RECLAMATION

Managing Water in the West

Steinaker Service Canal Modification Project Draft Environmental Assessment

PRO-EA-13-003

Uintah County, Utah
Provo Area Office
Upper Colorado Region

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

December 2013

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The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

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

Steinaker Service Canal Modification Project Draft Environmental Assessment

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prepared by *Bureau of Reclamation*
Provo Area Office

Uintah County, Utah
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Chapter 1 Purpose and Need for Proposed Action

1.1 Introduction

The Uintah Water Conservancy District (District) located in Uintah County, Utah, has requested authorization from the Bureau of Reclamation (Reclamation) to modify the existing Steinaker Service Canal, a feature of the Vernal Unit of the Central Utah Project, into a pressurized pipeline (herein referred to as the Project). The Vernal Unit was established to provide a firm water supply to land in Ashley Valley. The Vernal Unit consists of Steinaker Dam and Reservoir, Fort Thornburg Diversion, Steinaker Feeder Canal, and Steinaker Service Canal (Canal). The Vernal Unit supplies supplemental irrigation water either by direct delivery through the Steinaker Service Canal or by exchange through the existing canals above the Steinaker Service Canal. An overview map showing the Vernal Unit facilities is shown in Figure 1 in Chapter 8.

The overall purpose of the Project is to minimize or eliminate loss of water to seepage and evaporation, maximizing the amount of Vernal Unit water available for irrigation purposes in Ashley Valley. The District proposes converting the entire length of the Canal into a pressurized pipeline. The Canal alignment is shown in Figure 2. The Canal is located within an existing easement owned by Reclamation. The Canal is operated and maintained by the District under an agreement with Reclamation.

Reclamation has prepared this Environmental Assessment (EA) to comply with procedural requirements of the National Environmental Policy Act of 1969 (NEPA), Public Law 91-90, as amended, and the Council on Environmental Quality and Department of the Interior regulations implementing NEPA. This EA analyzes the potential impacts of the Proposed Action (converting the existing Canal into a pressurized pipeline) in comparison with a no action alternative. Under the No Action Alternative, the existing Canal will remain unchanged. As required by the NEPA implementing regulations, if significant impacts to the human environment are identified, an Environmental Impact Statement will be prepared. If no significant impacts are identified, Reclamation will issue a Finding of No Significant Impact (FONSI).

A Biological Assessment (BA) has been prepared for the purposes of consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531-1534).

1.2 Background

The Canal is a clay-lined channel that was constructed from 1961 to 1962 with initial delivery of water in June of 1963. The Canal was operated and maintained by Reclamation until January 1, 1967, when Reclamation transferred the 'care, operation, and maintenance' of the Canal to the District. The District has continued to operate and maintain the Canal since that time.

The Canal is approximately 60,100 feet long and runs from the spillway of Steinaker Reservoir some 12 miles south, as shown in Figure 1. The Canal carries approximately 250 cfs of irrigation water at its head to users in the Ashley Valley area, providing irrigation to 14,781 acres of land. An approximately 60-inch-diameter tunnel through the right abutment of the dam delivers water from the reservoir into the Canal. Gates are provided within the tunnel to control the outflow from the reservoir. The Canal is used during the growing season, averaging 6 months of the year.

Water rights within the Canal are owned by Reclamation. These water rights include Water Right No. 45-2049 which allows a diversion of up to 31,458 acre-feet from Ashley Creek through the canal to be stored in Steinaker Reservoir. A second Water Right, No. 45-2144, allows up to 2,715 acre-feet of water from Steinaker Draw to be captured in Steinaker Reservoir. Steinaker Draw is the only tributary to the off-channel basin of Steinaker Reservoir.

Figure 2 shows the Canal alignment and Figure 3 shows land ownership within the Project area.

Due to a water shortage over the past several years, the District has been working to improve the water supply to the lands that rely on the Canal. Over a 7-year period, the District measured the flows coming into the Canal and compared them to the measured flows through the turnouts along the Canal. Approximately 15 percent of the water within the Canal is lost through seepage and evaporation (Table 1-1). The District applied for financial assistance from Reclamation by way of the Colorado River Basin Salinity Control Act to help enclose the Canal.

1.3 Purpose of and Need for Action

The purpose of the Project is to eliminate water losses to seepage and evaporationby converting the existing Canal into an enclosed pressurized pipeline and whether to provide financial assistance to the District. This would help ensure the irrigation water supply in Ashley Valley. The Project is needed to improve water quality, increase public safety, reduce Canal maintenance, and prevent trash and debris from entering the water. The Federal Action being considered is whether or not Reclamation should provide funding and authorize the District to modify the existing Canal into a pressurized pipeline.

Table1-1
Flows and Seepage Loss

Historic Flow and Measured Losses										
(From Ashley Creek River Commissioner)										
Units: Acre-feet										
									Measured	
Year	April	May	June	July	Aug	Sept	Oct	Total	Losses	% Loss
2005	-	-	-	6,995	6,881	4,316	-	18,192	3,787	20.8%
2006	-	6,995	6,556	5,952	6,116	2,141	303	28,063	2,748	9.8%
2007	-	3,593	6,668	6,233	6,194	3,028	494	26,210	4,092	15.6%
2008	-	4,272	4,201	6,905	7,018	3,705	856	26,957	3,539	13.1%
2009	-	4,240	3,812	6,782	7,221	3,465	926	26,446	4,600	17.4%
2010	-	4,463	5,437	6,993	6,175	4,610	648	28,326	4,101	14.5%
2011	-	2,940	6,005	5,450	5,702	4,153	1,278	25,528	4,002	15.7%
Total		**26,503**	**32,679**	**45,310**	**45,307**	**25,418**	**4,505**	**179,722**	**26,869**	106.9%
Average		3,786	4,668	6,473	6,472	3,631	644	25,675	3,838	15.3%
Cubic Feet Per Second										
									Measured	
Year	April	May	June	July	Aug	Sept	Oct	Total	Losses	% Loss
2005	-	-	-	10	9	6	-	25	5	20.8%
2006	-	10	9	8	8	3	0	39	4	9.8%
2007	-	5	9	9	9	4	1	36	6	15.6%
2008	-	6	6	10	10	5	1	37	5	13.1%
2009	-	6	5	9	10	5	1	36	6	17.4%
2010	-	6	8	10	9	6	1	39	6	14.5%
2011	-	4	8	8	8	6	2	35	6	15.7%
Total		**37**	**45**	**63**	**63**	**35**	**6**	**248**	**37**	106.9%
Average		5	6	9	9	5	1	35	5	15.3%

Note: The historic flows have been calculated in acre-feet and cubic-feet per second (cfs). These losses take into account water allocated through turnouts and other water delivery. The measurements are taken at the intake of the Canal and at the last turnout near the terminus of the Canal.

1.3.1 Prevent Evaporation and Seepage

From 2005 to 2011, the average loss due to seepage and evaporation in the Canal was estimated at 15 percent. Enclosing the Canal would eliminate this loss.

1.3.2 Improve Water Quality

Development along the Canal has resulted in unauthorized storm water inflows and irrigation return flow, as well as the accumulation of debris and animals in the water. The enclosure of the Canal would eliminate outside contaminants from entering the water. Storm water would no longer have any means of entering the Canal.

1.3.3 Increase Public Safety

The Canal corridor is frequently used for unauthorized recreational activities. Enclosing the Canal would eliminate the possibility of someone entering the open water.

1.3.4 Reduce Time Maintaining the Canal

The inflows from storm water discharge and irrigation return flow can result in additional sediment loads, which have to be periodically removed from the Canal. Enclosing the Canal would eliminate these inflows.

Enclosing the Canal would also greatly reduce Canal and Right-of-Way maintenance activities such as grading, weed control, rodent control, and leak monitoring.

1.3.5 Prevent Trash and Debris from Entering the Water

The open water Canal has the ability to collect trash and debris, which can impact the operation of turnouts and delivery systems along the Canal.

1.4 Scoping

The Proposed Action was presented to the public and cooperating agencies, via a mailing list, where 884 individual letters were sent to property owners within 1,000 feet of the Canal right-of way as well as state and federal agencies. The letters invited the recipients to a public scoping meeting held on June 18, 2013, and included a brief description of the Project and a Project area map (appendix D).

Comments were accepted at the scoping meeting as well as by e-mail, facsimile, telephone, and standard mail. Using the comments from the public and other agencies, the interdisciplinary team identified and considered issues of public concern, which are included in Appendix E Public Comment Summary.

The Project file at the Reclamation Provo Area Office contains the comment letters as well as a summary of how these comments were addressed. A complete record of all public involvement and consultation activities are also kept in the Project file.

1.5 Permits, Licenses, and Authorizations Required

Implementation of the Proposed Action may require a number of authorizations or permits from state and Federal agencies. The District would be responsible for obtaining all permits, licenses, and authorizations required for the Project. Potential authorizations or permits may include those listed in Table 1-2 and others not listed.

Table 1.2
Permit and Authorizations Required

Agency/Department	Purpose
Utah Division of Water Quality	Utah Pollution Discharge Elimination System (UPDES) permit for dewatering.
Utah Division of Water Quality	Storm Water Discharge Permit under Section 402 of the Clean Water Act if water is to be discharged as a point source into Ashley Creek or other natural streams or creeks.
State of Utah Department of Natural Resources. Division of Water Rights	Stream Alteration Permit under Section 404 of the Clean Water Act and Utah statutory criteria of stream alteration described in the Utah Code. This would apply for impacts to Ashley Creek or other natural streams or creeks during Project construction.
Utah State Historic Preservation Office	Consultation pursuant to Section 106 of the National Historic Preservation Act, 16 USC 470.
United States Fish and Wildlife Service	Consultation pursuant to Section 7 of the Endangered Species Act.
US Army Corps of Engineers	A USACE permit in compliance with Section 404 of the Clean Water Act may be required if Waters of the United States are proposed to be filled or dredged as part of the Project.
Bureau of Reclamation	A supplemental operation and maintenance (O&M) agreement will be necessary in order for permission to be granted for the District to modify Federal facilities.

1.6 Related Projects and Documents

1.6.1 Final EA Steinaker Reservoir Water Surface Elevation Increase

An EA was prepared in 2007 which analyzed a proposal to raise the full pool water surface elevation of Steinaker Reservoir from 5517.8 feet above mean sea level (msl) to 5520.5 msl. The District requested authorization from Reclamation for this action.

The purpose of the proposal was to increase the reservoir's water storage capacity with no structural or operational modification to the dam or reservoir. A FONSI was issued September 2007.

1.6.2 Final EA Steinaker Feeder Canal Dam/Service Canal/Carriage of Non Project Water

An EA is being prepared to allow the District the carriage of 35,000 acre-feet of non-project water through Vernal Unit facilities. The EA is expected to be completed by the end of 2013. The carriage of non-project water through Steinaker facilities and the Canal enclosure are separate projects independent of each other.

1.7 Scope of Analysis

The purpose of this EA is to determine whether or not Reclamation should authorize, provide funding, and enter into an agreement with the District for the enclosure of the Canal to develop a more secure and reliable irrigation water supply for Ashley Valley. That determination includes consideration of whether there would be significant impacts to the human environment. In order to enclose the Canal, this EA must be completed and a FONSI issued. Analysis in the EA includes temporary impacts from construction activities and permanent impacts as a result of enclosing the Canal.

1.8 Document Organization

This EA consists of the following chapters:

1. Purpose and Need for Proposed Action
2. Alternatives
3. Affected Environment and Environmental Consequences
4. Environmental Commitments
5. Consultation and Coordination
6. References
7. Preparers
8. List of Acronyms
9. Figures

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.

The District has requested funding and authorization to enclose the Canal. The irrigation water within the Canal would continue to be released from the Steinaker Reservoir. The current yearly average volume of water transported through the Canal is 25,675 acre-feet measured over the 6 growing months of the year. The water is released into the Canal in May and shut off in early to late fall of each year. The Canal is dry six months of the year.

2.2 No Action Alternative

Under the No Action Alternative, the Canal would not be converted to a pressurized pipeline. The Canal would continue to deliver water through an open channel. The District's maintenance and inspection activities would continue, including annual cleaning and dredging of the Canal, monitoring, and inspection. Canal operations would continue unchanged. Evaporation and seepage from the Canal would continue unabated. New bridges and crossings of the Canal would be constructed as required by development adjacent to the Canal, increasing the opportunity for public interaction with the Canal, thus increasing the potential of risk to public safety.

2.3 Proposed Action Alternative (Preferred)

The Proposed Action Alternative consists of converting the existing Canal into a pressurized pipeline. The new pipeline would be built along the existing Canal alignment and, once complete, would be approximately 12-miles long. All construction work associated with the pipeline would remain within the existing Right-of-Way.

The pipe would be covered with a minimum of 3 feet of soil. Wherever possible, the cover soil would be graded to blend smoothly into the surrounding ground surface. However, in some places the Canal banks extend higher than 3 feet above the top of the proposed pipeline. In these areas, the Canal banks would remain visible (Appendix G). The disturbed ground above the pipeline would be

revegetated using a mix of upland plants appropriate for the area.

The diameter of the pipeline would range from 84 inches at the upstream end to 36 inches at the downstream end. The pipeline would be constructed from steel and high density polyethylene. The size and materials of the pipeline would be carefully selected to ensure that the pipeline capacity would equal the capacity of the existing Canal. There would be no new water right diversions.

As another component of the Proposed Action the District applied for financial assistance from Reclamation by way of the Colorado River Basin Salinity Control Act to help fund the modification of the Canal.

2.3.1 Canal Enclosure

The Canal currently operates as an open Canal. Because of funding limitations, the District desires to enclose the Canal in phases as funding becomes available. During the phasing of the Project, the Canal would continue to be operated as an open Canal in sections not piped and would have limited pressure until the entire Project is completed. At that time, the Canal would become fully pressurized. It is determined that the pipeline design would range from an 84-inch at the top of the Canal near the dam to 48-inch diameter towards to end of the Canal.

2.3.2 Turnouts

Approximately 45 existing turnouts deliver water to various users along the length of the Canal. Existing turnout structures would be replaced with two valves (one isolation, one control) and an electronic flow meter that would allow independent control and measurement of flow at each of the individual turnouts. The size of the valves and piping would vary according to the required capacity for each turnout. Table 2-1 lists the turnouts, their locations and capacities. This table is also included in Figure 5, Hydrology and Turnouts with reference to stationing along the Canal.

2.3.3 Road Crossings

Vehicular access over the Canal is provided by 19 major road crossings and 39 farm crossings. Major road crossings occur where highways and surface streets cross the Canal and consist of box culverts, siphons, or bridges paved with asphalt (see Table 2-2).

All major road crossings would remain following construction of the pipeline. Where possible, the pipeline would be installed without disturbing the overlying road. In the other locations, the road crossing would be shut down temporarily so that the road can be cut and the pipeline installed. Detours would be provided while the road crossing is out of service and the road would be repaired following pipeline construction.

Table 2-1
Service Canal Turnouts

	Station	Reclamation Mile No	Capacity (cfs)
1	3+75	0.1	60
2	34+22	0.6	5
3	46+28	0.9	15
4	86+90	1.6	5
5	100+00	1.9	5
6		2.0 P	22
7	107+43	2.0	14
8	120+97	2.3	5
9	121+59	2.3	222
10	135+93	2.6	5
11	140+90	2.7	5
12	147+65	2.8	222
13		3.1	5
14	170+15	3.2	12
15	193+06	3.6	5
16	193+43	3.7 R	
17	193+43	3.7 L	115
18	193+80	3.7	111
19	231+46	4.4	5
20	266+20	5.0	111
21	277+83	5.2	5
22	278+68	5.4	5
23	300+59	5.7	5
24	305+39	5.8	5
25	311+70	5.9	5
26	311+85	5.9	100
27	363+37	6.9B	15
28	377+92	7.4	2
29	391+59	7.5	1
30	444+35	8.5	26
31	458+79	8.8	3
32	471+58	9.0	2
33	477+88	9.1	2
34	488+53	9.4	2
35	497+35	9.5	5
36	497+41	9.6	10
37	507+53	9.8	2
38	517+10	9.9	5
39	540+79	10.2	15
40	547+20	10.3	2
41	547+30	10.4A	20
42	585+11	11.2	3
43	595+58	11.4	5
44	596+20	11.5	30
45	600+33	11.6	5

Farm crossings provide access over the Canal for individual land owners and consist of wooden beam and plank bridges with concrete footings. Most farm crossing bridges would remain intact throughout construction of the pipeline. In a few instances, the bridges would be removed and replaced with an at-grade crossing.

Table 2-2
Road Crossings

Name	Station	Dimensions	Type of Structure
3300 N	4,800		Box Culvert
2000 N	10,500		Bridge
1500 W	15,500		Siphon
Righteous Lane	17,900		Box Culvert
500 N	19,300		Bridge
Main St	21,800		Pedestrian Bridge
Main St	21,800		Box Culvert
500 S	23,250		Box Culvert
650 S	24,000		Box Culvert
Highway 40	25,250		Bridge
1000 S	26,000		Box Culvert
S 1500 W	29,400		Box Culvert
1500 S	30,700		Box Culvert
2500 S	37,900		Box Culvert
500 W	40,750		Box Culvert
Vernal Avenue	48,000		Box Culvert
4000 S	49,500		Box Culvert
4500 S	53,000		Box Culvert
5000 S	56,800		Bridge

2.3.4 Stream Crossing/Siphon

The Canal crosses one active stream, Ashley Creek. It runs through a siphon underneath the creek. The siphon would have to be replaced with the pipeline in order to maintain sufficient flows. Consideration was given to slip lining the siphon, but cannot get a big enough pipe through the siphon to maintain the necessary flows.

The pipeline would be installed in two steps-approximately half of the river would be crossed in both steps. Flows would be diverted to one side of the creek while the first half of the crossing is installed. Once that is done, the flows would be diverted to the first side of the river and the second half of the crossing would be installed.

2.3.5 Other Crossings

Other prominent features of the Canal include 50 irrigation crossings, 8 drainage inlets, 28 culverts, 3 waterline crossings, and a pedestrian bridge at 500 South.

Each of these crossings would remain following pipeline construction. Service of these crossings may be temporarily disrupted during construction and some of the crossings may need to be modified, but they would all remain operable following construction, except for the drainage inlets. They would be routed over the pipeline and would discharge on the downstream side of the pipeline.

2.3.6 Saved Water

The water saved due to the elimination of seepage and evaporation losses does not constitute a new source of water previously unavailable to the users of the Canal. The saved water would help firm up the existing water supply, ensuring that users can receive their full allotment, even in dry years.

2.3.7 Recreation

Reclamation and the District are aware of public interest in constructing a recreation trail over top of the pipeline. Recreational use of the Canal right-of-way is not within the scope of this project and will not be addressed in this EA.

2.3.8 Construction Schedule and Canal Operation During Construction

Construction of the entire 12 miles of pipeline would be split into approximately five phases distributed over several years as funding becomes available. Each phase would comprise a single construction window during the non-irrigation season (from October of one year to April of the following year).

Pipeline construction would begin at the downstream end of the Canal and progress upstream. The first construction season is scheduled to begin in the spring 2014. It is unknown when the second construction season would begin. In order to continue delivering water between construction seasons, a temporary intake structure would be built at the upstream end of the pipeline. The temporary structure would be moved upstream as pipeline construction progresses. While the pipeline is under construction, the pipeline would operate under gravity flow conditions. Once the final phase is complete and the pipeline is connected to the reservoir outlet, the pipeline would function as a fully pressurized system.

2.3.9 Pipeline Construction Procedures

2.3.9.1 Construction Sequence

Construction would likely occur in the following sequence:

- Construct or improve needed access roads
- Clear and grade Canal bottom

- Install pipeline bedding materials
- Haul pipeline to construction sites
- Place pipeline in Canal and connect
- Backfill around pipeline and grade surface
- Clean up and restore areas disturbed by construction
- Plant right-of-way and disturbed areas to provide for revegetation

2.3.9.2 Clear and Grade Canal Bottom

The existing Canal bottom would be excavated and graded to provide a level base for installation of the pipeline. All excess material would be disposed within the Canal right-of-way. Much of the excavated material could be used for backfill and would be disposed along the enclosure in ways that blend with adjacent terrain. Base material for bedding the enclosure would be hauled to the site and placed in the Canal bottom once graded.

2.3.9.3 Pipeline Installation

The pipe would be transported from the manufacturer to the work site by flatbed truck and/or specially outfitted loaders. Needed bedding and backfill material would be imported from available commercial sources. Each pipeline section would be placed in the prepared Canal by the necessary construction equipment and connected to the previously laid section by field welding depending on the pipeline type. After the sections are connected, backfill would be carefully placed around the pipeline in lifts either from material available along the Canal or imported from local offsite commercial gravel pits. Typically, backfill would be mechanically compacted with a vibratory compactor.

Following construction, the contractor would remove all debris. Spoil in work areas would be spread evenly to blend with contours and maintain local drainage patterns.

2.3.9.4 Road Crossings

Where possible, road crossings would be completed by removing the bottom of the structure to allow installation of the pipeline. Controlled Low Strength Material (CLSM) would be used as backfill to the bottom of the structure to provide adequate strength below the structure. Where this option is not possible, the road crossings would be excavated and asphalt and concrete material would be removed offsite to an approved disposal site. 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. Temporary gravel surfaces at the road crossings would be installed and the final asphalt and curb and gutter restoration completed before spring. Road crossings would be restored to a condition better than or equal to existing conditions.

2.3.9.5 Drainage Crossing

Existing drainage crossings of the Canal would be maintained or improved during construction.

2.3.9.6 Quality Control Procedures

After backfilling and all construction work are completed; the contractor would ensure quality control of construction through visual inspection and hydrostatic testing. Each segment or reach of pipe would be filled with water and pressurized for hydro-testing through contractor-supplied pumps to ensure that the system operates to design specifications. If the pipe leaks or breaks, it would be repaired and re-tested until it meets specifications. Test segment lengths would be determined by construction season and availability of water through agreements consistent with federal, state and local regulations and codes. After testing a segment, the water may be pumped into the next segment for testing and would ultimately be disposed in accordance with water quality regulations.

2.3.9.7 Construction Staging Areas

The project construction area would be a strip approximately 60 feet wide by 12 miles long. The crews involved, invert preparation, enclosure laying, and finish grading and restoration, would all move along the Canal from day to day. Each crew's equipment would move along the Canal with them.

Some of the pipe would be stockpiled at approved staging areas. However, much of the pipe would be delivered as it is needed along the Canal right-of-way. As such, the Canal ROW would be a continuous staging area for the crews as they move up and down the Canal. Five separate staging areas along the Canal corridor were evaluated as part of the environmental process. These staging areas would be used for equipment staging, construction personnel vehicular parking, and occasional materials stockpiling.

2.3.9.8 Operation and Maintenance

Operation of the Canal after enclosure would remain essentially unchanged, and maintenance would be reduced significantly as a result of the enclosure. Operation would occur primarily from April 15 to October 15. Emergency situations, as defined by the District or when other conveyance systems are out of service, may require the enclosed Canal to be operated at other times.

2.3.9.9 Land Disturbance

The Canal right-of-way is approximately 60,100 feet in length and approximately 60 feet in width. The construction activity would be confined to the existing right-of-way and staging areas.

2.3.9.10 Construction Material Requirements

Table 2-3 lists major construction material requirements for the Proposed Action. All materials would be delivered from local suppliers.

Table 2-3
Estimated Major Construction Material Requirements for the Proposed Action

Type of Material	Use of Material	Quantity
Bedding	Bed pipe	133,500 cy
Backfill	Bury pipe	108,200 cy
Pipe		60,100 feet

2.3.9.11 Transportation Requirement

Construction transportation routes for the project include the existing access road along the Canal and the many cross streets shown on Figure 2. Transportation to the Project will be dispersed from each construction crew along the Canal and from day-to-day as the Project proceeds along the Canal alignment.

2.3.9.12 Standard Operating Procedures

Standard Operating Procedures (SOPs) will be followed (except for unforeseen conditions that would require modifications) during construction, operation and maintenance of the Project to avoid or minimize adverse impacts on people and natural resources. The SOPs and features of the Proposed Action have been formulated to avoid or minimize adverse impacts. Chapter 3 presents the impact analysis for resources after SOPs have been successfully implemented.

2.4 Comparison of Alternatives

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

- Prevent seepage and evaporation;
- Improve water quality;
- Increase public safety;
- Reduce maintenance; and
- Prevent trash and debris from entering the waterway.

As shown in Table 2-4, the No Action Alternative did not meet any of the Project's objectives while the Proposed Action Alternative met all five objectives.

Table 2-4
Comparison of Alternatives

Project Objective	Does the No Action Alternative Meet the Objective	Does the Proposed Action Alternative Meet the Objective
Prevent Seepage and Evaporation	No	Yes
Improve Water Quality	No	Yes
Increase Public Safety	No	Yes
Reduce Maintenance	No	Yes
Prevent Trash and Debris	No	Yes

2.5 Alternatives Considered and Eliminated From the Study

The following alternatives were evaluated but eliminated due to not meeting the purpose or need for the Project.

2.5.1 Membrane Lining

This alternative consists of lining the existing Canal with an impermeable membrane such as an ethylene propylene diene monomer (EPDM) or polyvinyl chloride (PVC). 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 of susceptibility to puncturing and the need to repair punctures on a regular basis. Punctures can occur when equipment or large animals such as livestock enter the Canal. It would also still allow debris to enter the Canal, it would not shorten the time to make flow changes, and most of the other aspects of an open Canal would remain the same. Public safety and evaporation loss would not be addressed with this alternative.

This alternative does not meet the purpose and need of the Project because it would keep the water in an open environment, thus allowing evaporation, equipment and livestock to continue to enter the Canal.

2.5.2 Gravity Pipeline

In gravity pipeline alternative, a buried pipeline would operate under gravity flow conditions. The pipeline would be constructed of steel pipe with diameters of 72 inches or larger. Smaller diameter sections would be constructed of High Density Polyethylene (HDPE) pipe.

This alternative was rejected because control gates would need to be located along the route to control the water surface in the pipeline under varying flow conditions. Due to the low amount of drop in the pipeline (only 16 feet in its length), these control gates would be required to raise the water surface in the pipeline under low-flow conditions to provide irrigation water to users. This alternative would be more costly than a pressurized pipeline and the use of control gates would be just as difficult to maintain and deliver water as the current conditions.

This alternative does not meet the purpose and need of the Project because it would not reduce Canal maintenance.

2.5.3 Gravity Box Culvert

The box culvert alternative comprised a buried, reinforced concrete box culvert that would operate under gravity flow conditions. This alternative was rejected because control gates would need to be located along the route to control the water surface in the box culverts under varying flow conditions, similar to the gravity pipe alternative. This alternative would be more costly than a pressurized pipeline and the use of control gates would be just as difficult to maintain and deliver water as the current conditions.

This alternative does not meet the purpose and need of the Project because it would not reduce Canal maintenance.

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: water resources and water quality; groundwater resources; Utah Department of Environmental Quality (DEQ) Regulated Sites; water rights; geology and soils; cultural and paleontological resources; Indian Trust Assets; wildlife resources; threatened, endangered and sensitive species; wetlands and vegetation; recreation; visual resources; socioeconomics; health, safety, air quality and noise; public, safety access and transportation. 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 Table 3.6 at the end of this chapter.

3.2 Resources Eliminated from Analysis

Table 3-1
Environmental Effects

Resource	Rationale for Elimination from Further Analysis
Wilderness and Wild and Scenic Rivers	There are no designated wilderness areas or Wild and Scenic Rivers within the Project area; therefore, there would be no impact to these resources from the Proposed Action.
Prime and Unique Farmland	There is Prime and Unique Farmland within the Project area however; there would be no impacts to this resource from the Proposed Action.
Air Quality & Climate Change	There would be no effects to air quality or climate change as a result of the Proposed Action.
Agricultural Farmlands	There would be no effects to agricultural farmlands as a result of the Proposed Action (Figure 10).
Floodplains	There would be no impacts to floodplains within the Project area from the Proposed Action.

3.3 Affected Environment

This chapter describes the affected environment (baseline conditions) of resources of the human environment that could be impacted by construction and operation of the Proposed Action as described in Chapter 2.

3.3.1 Water Resources and Water Quality

The analysis of surface water resources cover surface water features in the Canal from Steinaker Reservoir to the Canal outlet, as well as lands located immediately adjacent to those features. The affected environment is defined by the baseline conditions for the hydrologic features within the impact area of influence. Currently the Canal receives unauthorized inflows from storm water and irrigation return flow from lands adjacent to the Canal. Currently there is no water quality data available on the Service Canal. Potential impacts on water quality caused by the No Action Alternative and Proposed Action are not able to be examined.

Water quality during the construction phases of the Project should not be influenced since water delivery only occurs between April and October and construction activities would be performed between October and April. Development along the Canal has resulted in impacts to water quality because of unauthorized storm water inflow, unauthorized discharges, irrigation return flow and the presence of animals within upstream basins draining to the Canal. Piping the Canal would eliminate these water quality impacts. Under the Proposed Action, the capacity to meet the demands of District's water shareholders would not be affected.

There would be no significant impacts to water quality from this Project due to the proposed guidelines for construction outlined in Chapter 2. In addition, since construction of the Canal would occur in the winter months, no deliveries would be taking place from the Canal during construction and the end users of water from the Canal would not be affected.

Under the Proposed Action Alternative, storm water would no longer have any means of entering the Canal. Reclamation and the District are not responsible for unauthorized discharges and have never authorized any discharges into the Canal.

3.3.2 Groundwater Resources

The analysis for ground water resources covers water wells and springs near and along the Canal alignment from Steinaker Reservoir to the Canal outlet.

Valley fill aquifers underlying Ashley Valley are predominately recharged by surface water from canals and seepage from fields that water was applied to on the western and central portions of the valley (Hood, 1977). Recharge from precipitation and subsurface inflow is minimal. Groundwater flow is generally west to east in Ashley Valley towards Ashley Creek and the Green River.

Unconsolidated alluvium in Ashley Valley is approximately 50 to 100 feet in thickness based on well completion reports submitted to the Utah Division of Water Rights (UDWR).

3.3.3 Utah Department of Environmental Quality Regulated Sites

A review of state regulatory websites was conducted to locate potential hazardous waste sites within the Project Project area. The following websites were utilized:

Division of Environmental Response and Remediation
http://www.environmentalresponse.utah.gov/

Division of Solid & Hazardous Waste
http://www.hazardouswaste.utah.gov/

Following a review of the websites listed above, documented and permitted hazardous waste and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) sites were identified and are presented in Table 3-2. Table 3-3 presents information regarding underground storage tanks (USTs) and leaking underground storage tanks (LUSTs) in the Project area. Table 3-4 presents information regarding to Tier II facilities in the Project area. Figure 6 presents the proposed alignment, as well as identified regulated sites, underground storage tank locations and Tier II facilities within the Project area. Locations that were inventoried in Tables 3-2, 3-3 and 3-4 were located at a distance of 1 mile from the proposed alignment.

Hazardous waste-related incidents and facilities were screened to identify sites with a higher probability for existing soil or groundwater contamination.

High Probability of Environmental Depredation**:** The following sites have a high probability of existing soil or groundwater contamination.: Open LUST (leaking underground storage tank) sites (not yet remediated or closed) – There are 0 sites located within 1 mile of the Project area (Table 3-3 and Figure 6) as all sites are closed.

Moderate Probability of Environmental Degradation: The following sites have a moderate probability of environmental degradation.

- Closed LUST sites – 12 sites are located within 1 mile of the Project area (Table 3-3 and Figure 6).

- Active UST (underground storage tanks) sites – 7 sites are located within 1 mile of the Project area (Table 3-3 and Figure 6).

Low Probability of Environmental Degradation: The following sites have a low probability of environmental degradation.

- CERCLA Sites – 16 CERCLA sites are located within 1 mile of the

Project area (Table 3-2 and Figure 6).

- Removed and Closed USTs – 19 sites are located within 1 mile of the Project area (Table 3-3 and Figure 6).

- Tier 2 Facilities – 2 sites are located within 1 mile of the Project area (Table 3-4 and Figure 6).

Table 3-2
Documented DEQ CERCLIS Sites

Num	Sites	System ID	NAICS* Code	Description	Handler Type
1	Vernal Ave. TCE Plume	UT0001277342	None	N/A	
2	Vernal Barrels	UTD981542186	None	N/A	
3	Uintah Drums	UTD981542145	None	N/A	
4	Midwestern Services, Inc.	UTR000001420	None	N/A	Conditionally Exempt Small Generator
5	Price Water Pumping	UTR000012435	None	N/A	Transporter, Used oil program
6	West Hazmat Trucking Corp.	UTD988076592	None	N/A	Transporter
7	Smiths 1hr Photo	UTR000002873	None	N/A	
8	Cudd Pressure	UTD102722808	213112	Support activities for oil and gas operations	Conditionally Exempt Small Generator
9	Kmart #9225	UTR000012047	45299 452111	Department Store	Large Generator
10	Pamco	UTD988070579	None	N/A	Small Generator
11	Utah State University	UTR000004192	None	N/A	Conditionally Exempt Small Generator
12	Walmart #1572	UTR000009167	45291	Warehouse Club and Super Center	Conditionally Exempt Small Generator
13	Dowell Division of DOW Chemical	UTD000818252	None	N/A	
14	J and Sons Drum Cleaners	UTD988066528	None	N/A	
15	Western Company of North America	UTD088997010	None	N/A	
16	Multi-Chem Group, LLC	UTR000010959	42469	Other chemical and allied products merchant wholesalers	Small Generator

Table 3-3
UST/LUST Locations

Site	DERR ID	Site Type	Site Description
Circle K #1201	9000020	UST	Closed/Removed
Freestone Const. Co. Inc.	9000041	UST	Closed/Removed
Wildlife Resources	9000076	UST	Closed/Removed
Country Cash Market	9000159	UST	Closed/Removed
Utah Gas District Office	9000214	UST	Closed/Removed
Searle Gas Co. Inc.	9000235	UST	Closed/Removed
Thrifty Corner Mini Market	9000262	UST	Closed/Removed
Uintah Water Conservancy Dist	9000289	UST	Closed/Removed
Maeser Express	9000307	UST	Closed/Removed
Mort's Car Wash	9000336	UST	Active
Gilco Property	9000349	UST	Closed/Removed
Smith's #82	9000359	UST	Active
B's	9000387	UST	Active
R.W. Jones Trucking Co.	9000088	LUST	Closed
Salina Investment Co. #26	9000090	LUST	Closed
7-Eleven 1852-22234	9000102	LUST	Closed
7-Eleven 1852-23471	9000103	LUST	Active
Last Chance	9000160	LUST	Closed
Top Stop #42	9000165	LUST	Active
Philip W. Martin Water Serv	9000189	LUST	Closed
Pride Food Mart Vernal West	9000213	LUST	Closed
Top Stop #41	9000295	LUST	Active
Maverik #289	9000309	LUST	Active
Vacant Parcel	9000334	LUST	Closed
Vernal Orphan Tanks	9000370	LUST	Closed

Table 3-4
Tier 2 Facility Locations

Site	DERR ID	CIM ID
Sav-On Propane, Bulk Plant	3077	Pending 533
Frac Tech Services	6102	Pending 5369

3.3.4 Water Rights

Water rights within the Canal are owned by Reclamation. These water rights include Water Right No. 45-2049 which allows up to 31,458 acre-feet diversion from Ashley Creek through the canal to be stored in Steinaker Reservoir. The other Reclamation water right that would be in the Canal is Water Right No. 45-2144, which allows for up to 2715 acre-feet of Steinaker Draw flows to be captured in Steinaker Reservoir.

The flows and volume presented as part of this analysis are intended to represent typical fluctuations within the Canal between April and October of each year (irrigation season). Annual diversions into the Canal from 2005 to 2011 have averaged 25,674 acre-feet. Diversions have varied from as little as 18,192 acre-feet in 2005 to over 28,324 acre-feet in 2010.

3.3.5 Geology and Soils Resources

The Project is located in the Middle Rocky Mountain Physiographic Province, which includes the Wasatch and Uinta Ranges, as shown in Figure 4. The Project area is in the Ashley Valley within the Uinta Basin in northeastern Utah. The Project area elevation ranges from 5450 feet to 5400 feet above msl.

Geologically, the majority of the area (Ashley Valley) consists of alluvial and eolian deposits (alluvial plain) with sedimentary rocks surfacing on the southern half of the valley and at the margins of the Valley (Sprinkel, 2007). According to Sprinkel (2007) geologic formations that are exposed within the Project area include:

- Quaternary Alluvium, Terrace Deposits, Eolian Deposits, and Flood Plain and Channel Alluvium (boulders, gravels, sands, silts and clays) some believed to be of glacial origin.
- Brennan Basin Member of Duchesne Formation (sandstone, siltstone, mudstone and conglomerate)
- Mesaverde Group (Upper and Lower) (cross-bedded sandstone, shale and minor coal)
- Frontier Sandstone (sandstone with shale and limestone)
- Mancos Shale (calcareous shale with siltstone)

In April 2013, a geotechnical soils analysis was performed by Gerhart Cole Inc. on the lower reach of the Canal. The investigation consisted of a review of the surface as well as subsurface conditions encountered in 11 test trenches dug between a depth of 4 and 8 feet along a 25,500 foot long alignment (lower reach). The soils along the alignment consist of clays (CL), silty clays (CL-ML), sandy clays (CL), clayey sands (SC), gravel (GW) and clayey gravel (GC) (Gerhart Cole, 2013). A map of the soils within the Project area is shown in Figure 8. A

description of the soils by the Natural Resources Conservation Service of this area can be found in Appendix A.

Structurally, the Project area lies mainly within an erosional valley formed by Ashley Creek flowing across and through the outwash of glacial deposits (Hood, 1977). The sedimentary rocks in the southern portion and margins of the Project area generally strike to the northwest and dip to the southwest ranging from 5 to 25 degrees. The sedimentary rock formations to the north and east of Ashley Valley have been involved in numerous folding actions (anticlines and synclines) with minor faulting located on the western boundary of the valley. According to the U.S. Geological Service, the faults and folds do not appear to be in an active state.

3.3.6 Cultural Resources

Cultural resources are defined as physical or other expressions of human activity or occupation. Such resources include culturally significant landscapes, prehistoric and historic archaeological sites 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 National Historic Preservation Act (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 APE (area of potential effects), 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 consists of both a 100 foot wide linear corridor, approximately 11.4 miles in length, as well as five block areas. The APE encompasses the areas of potential ground disturbance associated with the proposed pipeline and staging areas.

A Class I records search and a Class III cultural resource inventory of the APE were completed by Bighorn Archaeological Consultants, L.L.C. (Bighorn) in June 2013. A total of 675 acres were inventoried during the Class III cultural resource inventory to determine if the Proposed Action would have any effect on cultural resources. Three previously recorded cultural resource sites (42UN2680, 42UN5195, and 42UN5471) were identified during the inventory (Baxter 2013:10).

In accordance with 36 CFR 800.4, the 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.

Bighorn recommended site 42UN2680 (Ashley Upper Canal) eligible for the NRHP under Criteria A and C, site 42UN5195 (Ashley Central Canal) eligible for the NRHP under Criterion B, and site 42UN5471 (Steinaker Service Canal) eligible for the NRHP under Criterion A (Baxter 2013:16). Site 42UN2680 would be avoided by all construction activities associated with the Proposed Action. A portion of the Ashley Central Canal where it intersects the Steinaker Service Canal would be modified to allow for the installation of the proposed pipeline in 42UN5471. The Proposed Action involves placing a pipeline in the existing Canal channel and covering it with fill material. The Proposed Action would cause an alteration to the characteristics of site 42UN5195 and 42UN5471 which make them eligible for the NRHP and would, therefore, have an effect on the properties according to 36 CFR 800.16(i). Pursuant to 36 CFR 800.5, the criteria of adverse effect were applied to both site 42UN5195 and 42UN5471. An adverse effect is defined as an effect that could diminish the integrity of a historic property's location, design, setting, materials, workmanship, feeling, or association. The Proposed Action would diminish the integrity of both sites and would have an adverse effect to the historic properties.

In compliance with 36 CFR 800.4(d)(2) and 36 CFR 800.11(e), a copy of the Class III cultural resource inventory report and a determination of historic properties affected were submitted to the Utah State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation (ACHP), and tribes which may attach religious or cultural significance to historic properties possibly affected by the Proposed Action for consultation.

Pursuant to 36 CFR 800.6(c), a Memorandum of Agreement (MOA) will be developed to resolve the adverse effects to site 42UN5195 and 42UN5471. Signatories to the MOA will include all parties that assume a responsibility under the agreement, including, but not limited to, Reclamation, SHPO, the Uintah Water Conservancy District, and if they choose to participate, the ACHP.

3.3.7 Paleontological Resources

Paleontological resources are defined as any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth. Any materials associated with an archaeological resource as defined in Section 3(1) of the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470bb(1)) and any cultural item as defined in Section 2 of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001) are not considered paleontological resources.

Section 6302 of the Paleontological Resources Preservation Act (PRPA) of 2009 (Sections 6301-6312 of the Omnibus Land Management Act of 2009 [Public Law 111-11 123 Stat. 991-1456]) requires the Secretary of the Interior to manage and protect paleontological resources on Federal land using scientific principles and expertise.

The APE for paleontological resources is consistent with the APE for cultural resources, as described in Section 3.3.6.

A paleontological file search for the APE was conducted by Martha Hayden, Paleontological Assistant for the Utah Geological Survey (UGS). In a letter dated September 23, 2013, the UGS stated that no paleontological localities recorded in the UGS files are located in the APE. Further, Quaternary and Recent alluvial deposits that are exposed throughout much of the APE, have a low potential for yielding significant fossil localities. Otherwise, unless fossils are discovered as a result of construction activities, the UGS concluded that the Proposed Action should have no impact on paleontological resources

3.3.8 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property held in trust by the United States for Indian tribes or individuals. The Department of the Interior's policy is to recognize and fulfill its legal obligations to identify, protect and conserve the trust resources of federally recognized Indian tribes and tribal members, and to consult with tribes on a government-to-government basis whenever plans or actions affect tribal trust resources, trust assets, or tribal safety (please refer to Departmental manual, 512 DM 2). Under this policy, as well as Reclamation's ITA policy, Reclamation is committed to carrying out its activities in a manner which avoids adverse impacts to ITAs when possible, and to mitigate or compensate for such impacts when it cannot. All impacts to ITAs, even those considered insignificant, must be discussed in the trust analyses in NEPA

compliance documents and appropriate compensation or mitigation must be implemented.

Trust assets may include lands, minerals, hunting and fishing rights, traditional gathering grounds, and water rights. Impacts to ITA's are evaluated by assessing how the action affects the use and quality of ITAs. Any action that adversely affects the use, value, quality or enjoyment of an ITA is considered to have an adverse impact to the resources.

Reclamation contacted the Bureau of Indian Affairs (BIA) Uintah and Ouray Agency in Fort Duchesne, Utah to identify any potential impacts to ITAs within the APE. No ITA impacts were identified by the BIA.

3.3.9 Wildlife Resources

Wildlife resources within the general area of the Project include fish, small mammals, raptors, water birds, and upland game birds, with a variety of other birds, reptiles, amphibians, and occasional big game (Figure 11). These are discussed below.

3.3.9.1 Fish

Steinaker Reservoir is home to a variety of fish including bluegill (*Lepomis macrochirus*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*), and rainbow trout (*Oncorhynchus mykiss*), but none of these fish or any others exist in the Canal. Occasionally fish make it into the stilling basin between the reservoir and the Canal.

3.3.9.2 Small Mammals

Small mammals common within the area include badger (*Tasidea taxus*), least chipmunk (*Eutamias minimus*), northern pocket gopher (*Thomomys talpoides*), deer mouse (*Peromyscus maniculatus*), porcupine *(Erethizon dorsatum*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*).

3.3.9.3 Raptors

Birds of prey, or raptors, have been observed near the Project area. Nearby cottonwood trees provide nesting habitat for raptors such as red-tailed hawk (*Buteo jamaicensis*) and roosting sites for the great horned owl (*Bubo virginianus*). A man-made nest stand exists near the north end of the Canal and has historically been home to osprey (*Pandion haliaetus*). This nest was not active during the 2012 or 2013 seasons and it is assumed the osprey nesting pair is using an alternate nest closer to the reservoir which has been active in the past 2 years. Other raptors observed in the area are the American kestrel (*Falco sparverius*), sharp-shinned hawk (*Accipter striatus*), northern harrier (*Circus cyaneus*), turkey vulture (*Cathartes aura*), and wintering bald eagles.

3.3.9.4 Water Birds

Shore birds including spotted sandpiper (*Actitis macularia*), and killdeer (*Charadrius vociferous*) forage along shoreline of the Canal, and occasional

Canada goose (*Branta Canadensis*) and mallards (*Anas platyrhynchos*) occur in the Project area, but in general very little ideal habitat exists for water birds.

3.3.9.5 Upland Game Birds

Upland game birds occurring in the Project area include the ring-necked pheasant *(Phasianus colchicus*), wild turkey (*Meleagris gallopavo*) and mourning dove (*Zenaida macroura*), and California quail (*Lophortyx californicus*). Chukar (*Alectoris chukar*) and Greater Sage Grouse (*Centrocercus urophasianus*) habitat also exists nearby.

3.3.9.6 Other Birds

The most common birds are songbirds and similar species associated with terrestrial habitats. These birds include American robin, (*Turdus migratorius*), starlings (*Sturnus vulgaris*), mourning doves (*Zenaida macroura*), and various species of sparrows and swallows *(Passeridae*), warblers (*Parulidae*), thrushes *(Turdidae),* vireos (*Vireonidae*), blackbirds, and hummingbirds (*Trochilidae*). Another group of birds frequently observed are the corvids, including jays (*Cyanocitta spp*.), the black-billed magpie (*Pica pica*), and the common raven (*Corvus corax*).

3.3.9.7 Reptiles and Amphibians

A number of reptiles occur in the general area including the wandering garter snake (*Thamnophis elegans vagrans*) and the Great Basin gopher snake (*Pituophis catenifer*). The tiger salamander (*Ambystoma tigrinum*) and boreal chorus frog (*Pseudacris triseriata*), may also occur in the area.

3.3.9.8 Big Game

The Canal corridor falls within mule deer (*Odocoileus hemionus*) habitat although deer presence along the Canal is limited. Rocky mountain elk (*Cervus elaphus nelsoni*) and pronghorn (*Antilocapra americana*), also have nearby habitat.

3.3.10 Threatened, Endangered, and Sensitive Species

Federal agencies are required to ensure that any action federally authorized, funded, or carried out will not adversely affect a federally listed threatened or endangered species.

Threatened (T), Endangered (E), and Candidate (C) species in Uintah County include:

Table 3-5
Threatened, Endangered, and Sensitive Species

Status	Common Name	Biological Name
Bird		
C	Greater Sage-grouse	*Centrocercus urophasianus*
T	Mexican Spotted Owl	*Strix occidentalis lucida*
C	Yellow-Billed Cuckoo	*Coccyzus americanus*
Fish		
E	Bonytail	*Gila elegans*
E	Colorado Pikeminnow	*Ptychocheilus lucius*
E	Humpback Chub	*Gila cypha*
E	Razorback Sucker	*Xyrauchen texanus*
Animal		
E1	Black-Footed Ferret	*Mustela nigripes*
T	Canada Lynx	*Lynx canadensis*
Plant		
T	Clay Reed-Mustard	*Schoenocrambe argillacea*
C	Graham's Penstemon	*Penstemon grahamii*
T	Pariette Cactus	*Sclerocactus brivispinus*
E	Shrubby Reed-Mustard	*Schoenocrambe suffrutescens*
T	Uinta Basin Hookless Cactus	*Sclerocactus glaucuc*
T	Ute Ladies'-tresses	*Spiranthes diluvialis*
C	White River Penstemon	*Penstemon scariosus var albifuvis*

1 Experimental Population, Non-Essential

Four endangered fish exist within Uintah County but none occur in the Canal or the reservoir.

The black-footed ferret, Canada lynx, greater sage-grouse, Mexican spotted owl, and western yellow-billed cuckoo exist within Uintah County but are not known to occur in the Project area.

The Ute ladies'-tresses are known to occur along the Canal corridor and were identified in multiple locations along the Canal during a 2013 survey specifically for this species. A BA analyzing the Proposed Action which includes the Ute ladies'-tresses is prepared for formal Section 7 consultation of the ESA.

The bald eagle is not included in the table above as it was delisted as a federally threatened species in 2007, but is still protected under the Bald and Golden Eagle

Protection Act and the Migratory Bird Treaty Act. There are no known nesting pairs at or near the Project area; however, it is a winter resident of the area.

3.3.11 Wetlands and Vegetation

The Canal corridor passes through a variety of habitats including sage steppe desert, agricultural/pasture lands, and several riparian areas created by Canal seepage over the past 50 years, as shown in Figure 7.

Desert vegetation includes big sage (*Artemisia tridentata*), rabbitbrush *(Chrysothamnus viscidiflorus),* globemallow *(Sphaeralcea grossulariifolia*), indian ricegrass *(Achnatherum hymenoides*), prickly pear cactus (*Opuntia polyacantha*) and cheatgrass (*Bromus tectorum*). In addition to cover crops of alfalfa (Sativa medicago) and barley (*Hordeum vulgare*), the pastured lands included quackgrass (*Elymus repens*), crested wheatgrass (*Agropyron cristatum*) Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and tumble mustard (*Sisymbrium altissimum*).

Riparian areas were dominated by wetland plants and included horsetail (*Equisetum arvense*), scouringrush (*Equisetum hyemale*), reed canary grass *(Phalaris arundinacea),* showy milkweed *(Asclepias speciosa),* Ute ladies'-tresses (*Spiranthes diluvialis*), foxtail barley (*Hordeum jubatum*), common cattail (*Typha latifolia*), torrey's rush (*Juncus torreyi*), cottonwood (*Populus sp.*), elm (*Ulmus pumila*), and Russian olives (*Elaeagnus angustifolia*) in the riparian sections.

A preliminary wetland delineation study was completed along the Project area and approximately 3.2 acres of wetlands were located, primarily in the lower section of the Canal, see Figure 9. Located along the banks of the Canal, these wetlands are not connected to any waterways and therefore may not be jurisdictional in nature or regulated by the US Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). According to the USACE Sacramento Regulatory Branch, the Proposed Action may be exempted (if deemed jurisdictional) under the Irrigation Ditch Construction or Maintenance exemptions under Section 404 of the CWA.

The wetland assessment performed herein is in accordance with the 1987 USACE Wetland Delineation Manual. Wetlands must exhibit three parameters to meet the USACE definition of a wetland: hydrophytic vegetation, hydric soils, and hydrology. Test holes were excavated to determine the soil conditions and vegetation was identified. The USFWS National Wetland Inventory (NWI) maps for the area were also used as a screening tool to identify potential wetlands on the property; however the closest NWI wetland is approximately 9 miles from the Project site.

3.3.12 Recreation

The closest recreation areas to the Canal are the Steinaker State Park, directly north of the Canal alignment, Ashley Nature Trail Park, and Vernal City Park. The

Canal corridor is also often informally used as a recreational area for walking, jogging, and bicycling.

3.3.13 Visual Resources

The visual resource of the area would be of a rural and urban setting with irrigated crops, residential development, commercial development, institution development, fences, dirt access roads for farm equipment and major access roads for thoroughfare.

The Canal corridor is relatively clear of larger vegetation and understory, with the exception of grasses and weeds. The impact area of influence for visual resources is the area adjacent to the alignment of the Proposed Action. The Canal presents an introduction of line and color into the landscape through the lined vegetation outside of the Canal corridor and the open water during the irrigation season. Right-of-way maintenance of the Canal is visible where vegetation is cleared or treated to minimize impacts to the water flow and continue to provide maintenance access. Currently, the existing Canal right-of-way is dominated by bare ground and 2weeds but provides a clear, open visual corridor. Appendix G shows the current conditions of the Canal compared to a simulated Project after the Canal is enclosed.

3.3.14 Socioeconomics

The proposed Canal enclosure would continue to provide a needed water supply to customers of the District. Up to 250 cfs, or an average of 25,675 acre-feet of water, would be secured for the existing water rights and irrigation use of Ashley Valley. This water would continue to be used for supplemental irrigation of pasture grasses, alfalfa, and grains.

3.3.15 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 Alternative. The areas that receive the most noise within the impact area of influence lie adjacent to U.S. 40. Although traffic noise may be heard throughout most of the urbanized areas of impact, most is associated with small volumes of residential traffic. Therefore, they are not considered to be a public safety issue. Since portions of the Canal right-of-way are currently vegetated, local residents experience minimal air quality impacts associated with dust and it is not considered to be a safety issue.

3.3.16 Public Safety, Access, and Transportation

The Project is located within Uintah County and can be accessed from several cross streets and major roadways within the county. The impact area of influence for transportation includes roads that would be used during construction, operation and maintenance of the Proposed Action and the No Action Alternative. The impact area of influence for utilities includes any utilities that would be moved, replaced or experience service interruptions under the Proposed Action or No Action Alternative.

During construction, it is estimated that up to about 15 construction vehicles per day would travel to the site. The majority of these vehicles trips would be for transporting construction materials including concrete, and excavation and backfill materials. The contractor would be transporting heavy construction equipment at the beginning and end of the Project. Upon completion of construction, vehicle trips are expected to be reduced to no more than 3 per day for operation and maintenance purposes during irrigation season.

3.4 Environmental Consequences

This chapter documents the environmental consequences (impacts as a result of the Proposed Action) on the quality of the human environment. 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.

The analysis presented in this chapter includes impacts that would occur from construction of the Proposed Action and continued existing conditions under the No Action Alternative.

3.4.1 Water Resources and Water Quality

3.4.1.1 No Action Alternative

The No Action Alternative would have no effect on water resources and water quality.

3.4.1.2 Proposed Action Alternative

The construction impacts of this Project would not adversely impact water resources and water quality. The amount of water to be delivered through the Proposed Action would remain the same.

By enclosing the Canal water quality would improve by eliminating adjacent surface water influence, irrigation return flows, and debris from entering the Canal water.

The Proposed Action would require construction activities to take place between October and April, which is the period when the Canal is not in use, and therefore would be dry. Consequently, water quality of transported water would not be jeopardized since the Proposed Action would be conducted before the normal delivery of water within the Canal. Ashley Creek would be affected during construction of this Project; however, it would not need to be rerouted as part of this Project. The Project would be constructed during the months when Ashley Creek runs dry. A Stream Alteration Permit from the Utah Department of Natural Resources, Division of Water Rights (DWR) is required for the Ashley Creek crossing (Section 73-3-29 of the Utah Code) and a CWA Section 404 permit for the discharge of dredged or fill material into waters of the U.S. may be required if

the width of the crossing exceeds 300 linear feet perpendicular to the channel. Coordination with the USACE and the Utah DWR would occur to ensure proper permitting of this activity.

Best management practices would need to be in place during construction to protect surface water quality from erosion during construction. By implementing these measures, drainage issues would be controlled by the Canal itself. The use of silt fences, straw bales, etc., downstream of the construction activities would allow for the Canal to be a continuous basin as construction proceeds along the Canal. These measures would ensure that in the case of heavy precipitation events, sediment losses from the disturbed areas would be controlled on site.

3.4.2 Groundwater Resources

3.4.2.1 No Action Alternative

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

3.4.2.2 Proposed Action Alternative

The Proposed Action Alternative would require construction activities to take place between October and April. Following the enclosure of the Canal, groundwater recharge directly from Canal seepage would essentially be eliminated. The impact to groundwater supplies as a result of virtual elimination of this seepage is unknown. Rather than water recharging directly by seepage under the Canal, infiltration by irrigation and losses after each turnout off the enclosed Canal would continue to feed the underlying aquifer. It is likely that existing seepage penetrated no further than the shallow groundwater table. However, the extent of the shallow groundwater usage is predominately for domestic purposes with well depths ranging between 30 and 75 feet below ground surface (all within alluvial fill material). The extent of effects on the wells is unknown at this time.

3.4.3 Utah Department of Environmental Quality Regulated Sites

3.4.3.1 No Action Alternative

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

3.4.3.2 Proposed Action Alternative

The enclosure would occur in the current Canal alignment and all excavated soils would be utilized as backfill or capping material and no material would be removed from the Project site.

The following regulated sites are the closest to the project area:

- Hazardous Waste Site 11 Utah State University
- Hazardous Waste Site 13 Dowell Division of DOW Chemical

The above sites are not within the area of impact for the project and would not be affected by the Proposed Action.

3.4.4 Water Rights

3.4.4.1 No Action Alternative

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

3.4.4.2 Proposed Action Alternative

Under the Proposed Action, there would be no changes to the beneficial use of existing water rights. However, as stated in Section 2, within the new piped system "saved water" would allow irrigation companies to fully utilize their water rights due to elimination of water losses associated with seepage and evapotranspiration.

3.4.5 Geology and Soils Resources

3.4.5.1 No Action Alternative

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

3.4.5.2 Proposed Action Alternative

Temporary surface soil impacts during construction are anticipated. Construction erosion and sediment controls would serve to minimize these impacts.

Construction of the pipe would include welded steel pipe and high density polyethylene HDPE pipe to minimize impacts due to operating pressures and the potential for possible seismic activity. Construction documents would address any additional appropriate pipe construction methods or materials.

3.4.6 Cultural Resources

3.4.6.1 No Action Alternative

Under the No Action Alternative, there would be no foreseeable impacts to cultural resources. There would be no need for ground disturbance associated with pipeline installation or staging. The existing conditions would remain intact and would not be affected.

3.4.6.2 Proposed Action Alternative

Under the Proposed Action Alternative, there would be an adverse effect to the Ashley Central Canal (42UN5195) and the Steinaker Service Canal (42UN5471). Mitigation measures for the adverse effect to both sites will be outlined in a MOA in accordance with 36 CFR 800.6(c).

3.4.7 Paleontological Resources

3.4.7.1 No Action Alternative

Under the No Action Alternative, there would be no foreseeable impacts to paleontological resources. There would be no need for ground disturbance associated with pipeline installation or staging. The existing conditions would remain intact and would not be affected.

3.4.7.2 Proposed Action Alternative

Under the Proposed Action Alternative, there would be ground disturbing activities which have the potential to impact subsurface fossil material. There are, however, no paleontological localities within the APE that are recorded in the UGS files. Therefore, the Action Alternative is not anticipated to have an impact on paleontological resources.

3.4.8 Indian Trust Assets

3.4.8.1 No Action Alternative

Under the No Action Alternative, there would be no foreseeable impacts to ITAs. The existing conditions would remain intact and would not be affected.

3.4.8.2 Proposed Action Alternative

Under the Proposed Action Alternative, there would be no foreseeable impacts to ITAs. No ITAs have been identified and implementation of the Proposed Action Alternative would, therefore, likely have no effect on ITAs.

3.4.9 Wildlife Resources

3.4.9.1 No Action Alternative

The No Action Alternative would have no negative effects on wildlife.

3.4.9.2 Proposed Action Alternative

Under the Proposed Action there would be no long-term detrimental effects to wildlife.

During construction, temporary and minor negative impacts would occur. Initial construction activity would cause stress to some wildlife species from noise, dust, displacement, and temporary loss of habitat, until construction was completed.

Raptors are occasionally present in the Project area and may be temporarily displaced by construction activities (noise and habitat disturbance). Cottonwood trees and dead snags should be avoided during construction. However, loss of several trees would occur that could displace raptors. These effects would be short term or very limited in extent and would have no long term significant negative effects, since these birds would be able to use abundant similar roost sites or other habitat elements in the immediate vicinity of the Project. A survey of nesting raptors would be conducted prior to any tree removing activities. This survey would be

conducted by a biologist. This would be done in order to avoid any negative impacts to these birds to the extent possible.

A survey of ground nesting birds would be conducted prior to any ground disturbing activities. This survey would be conducted by a biologist. This would be done in order to avoid any negative impacts to these birds to the extent possible.

3.4.10 Threatened, Endangered, and Sensitive Species

3.4.10.1 No Action Alternative

The No Action Alternative would have on effects on Threatened, Endangered, and Sensitive Species.

3.4.10.2 Proposed Action Alternative

The Proposed Action may affect and would likely adversely affect Ute ladies'-tresses and their habitat. It is anticipated that the Project would disturb the soil currently providing habitat for the Ute-ladies' species. A survey of the species was conducted by foot within the corridor in August 2013, as well as the proposed staging areas within 200 feet of the Canal corridor. A total of 269 individual plants were found within the affected environment.

The Proposed Action will require Section 7 Consultation with USFWS. Mitigation parameters and best management practices will be set forth during Section 7 Consultation of the ESA between Reclamation and the USFWS.

US Fish and Wildlife Service
Utah Ecological Services Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119
801-975-3330

3.4.10.3 Other Listed Species

No other threatened, endangered, or candidate animal, bird, or fish species would be effected by the Proposed Action.

The Endangered Species Act consultation process for the Proposed Action should be followed by an issuance of the Fish and Wildlife Service's Biological Opinion.

Impacts from the Proposed Action would be mitigated by environmental commitments outlined in the EA/BA or by reasonable and prudent measures provided in the USFWS Biological Opinion.

3.4.11 Wetlands and Vegetation

3.4.11.1 No Action Alternative

The No Action Alternative would have no negative effect on wetlands and vegetation.

3.4.11.2 Proposed Action Alternative

The Proposed Action would permanently impact approximately 3.2 acres of wetland. USACE has determined that canals are not navigable waters and therefore are exempt from regulation under section 404 of the CWA according to the irrigation construction and maintenance exemption. Therefore, a USACE permit is not required for completion of this Project.

The enclosure of the Canal would eliminate water loss through seepage along the Canal. Under the Proposed Action approximately 3.2 acres of wetlands would be permanently lost due to the construction of the Project.

3.4.12 Recreation

3.4.12.1 No Action Alternative

The No Action Alternative would have no effect on recreation along the Canal.

3.4.12.2 Proposed Action Alternative

The Proposed Action would not adversely impact recreation. The open Canal corridor is commonly used as an unauthorized trail corridor. The enclosure of the open Canal would remain at the same surface elevation once the Canal is enclosed.

3.4.13 Visual Resources

3.4.13.1 No Action Alternative

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

3.4.13.2 Proposed Action Alternative

The Canal corridor is an open area cleared of most vegetation. The understory consists of grasses and weeds. The impacts to the visual environment from the Proposed Action would be noticeable by the adjacent landowners and occasional recreationist for unauthorized trail use. The Proposed Action would contour and seed the corridor to help mitigate the action once construction is complete.

3.4.14 Socioeconomics

3.4.14.1 No Action Alternative

Under the No Action Alternative there would be no adverse effects to socioeconomics.

3.4.14.2 Proposed Action Alternative

Under the Proposed Action Alternative the water supply to the intended irrigation shareholders would be secured to help ensure a constant and regular source of water for irrigation. Construction would occur during the non-irrigated season; therefore, no significant effect is anticipated during construction.

3.4.15 Health, Safety, Air Quality and Noise

3.4.15.1 No Action Alternative

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

3.4.15.2 Proposed Action Alternative

The Proposed Action Alternative would have minor short-term effects during construction, but there would be no long-term effects on health, safety, air quality and noise.

3.4.16 Public Safety, Access, and Transportation

3.4.16 .1 No Action Alternative

The No Action Alternative would have no impact on public safety, access, and transportation.

3.4.16.2 Proposed Action Alternative

The Proposed Action Alternative would have minor short-term effects during construction, but no long-term effects on public safety, access, and transportation.

3.5 Summary of Environmental Effects

Table 3-6 summarizes environmental effects under the No Action Alternative and the Proposed Action Alternative.

Table 3-6
Summary of Environmental Effects

Project Resource	No Action Alternative	Proposed Action Alternative
Water Resources & Water Quality	No Effect	No Effect
Groundwater Resources	No Effect	No Effect
DEQ Regulated Sites	No Effect	No Effect
Water Rights	No Effect	No Effect
Geology and Soils	No Effect	No Effect
Cultural Resources	No Effect	Adverse Effects to sites 42UN5195 and 42UN5471
Paleontological Resources	No Effect	Potential effects to subsurface fossil material.
Indian Trust Assets	No Effect	No Effect
Wildlife Resources	No Effect	No Effect
Threatened and Endangered Species, Sensitive Species	No Effect	Adverse Effect to ULT, Section 7 Consultation Required.
Wetland and Vegetation	No Effect	Adverse Effect to Wetlands and Vegetation
Recreation	No Effect	No Effect
Visual Resources	No Effect	No Effect

Socioeconomics	No Effect	No Effect
Health, Safety, Air Quality and Noise	No Effect	No Effect
Public Safety, Access and Transportation	No Effect	No Effect

3.6 Environmental Justice

Executive Order 12898 established environmental justice as a Federal agency priority to ensure that minority and low-income groups are not disproportionately affected by Federal actions. The Canal is located in Uintah County. The estimated Uintah County population for 2012 was 34,524. Statistics for the year 2010, the most recent census data, shows a county population of 32,588 consisting (11 percent) of individuals living below poverty level and (9.1 percent) belonging to various minority groups with (7.8 percent) belonging to the American Indian group (US Census Bureau).

Implementation of the Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the Project area. The reason for this is that the Proposed Action would not involve major facility construction, population relocation, health hazards, hazardous waste, or substantial economic impacts. This alternative would therefore have no adverse human health or environmental effects on minority and low-income populations as defined by environmental justice policies and directives.

3.7 Cumulative Effects

Cumulative effects are an aggregate of many direct and indirect effects, and include past, present actions, or actions that can reasonably be expected to occur. The potential for direct adverse effects to the environmental resources resulting from the alternatives is discussed in the previous sections.

Cumulative effects for this Project may include maintenance and repair work on the pipeline. Any impacts from this work would be temporary in nature with no long-term impacts.

Chapter 4 Environmental Commitments

4.1 Commitments

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

1. **Standard Reclamation Management Practices -** Standard Reclamation management practices 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 report on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, and wildlife. The Project will comply with all requirements set for in the formal Section 7 consultation with USFWS. Excavated material and construction debris may not be wasted in any stream or river channel or placed in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at a Reclamation approved upland site well away from any channel. Construction materials, bedding material, excavation material, etc. may not be stockpiled in riparian or water channel areas. Silt fencing will be appropriately installed and left in place until after revegetation becomes established, at which time the silt fence can then be carefully removed. Machinery must be fueled and properly cleaned of dirt, weeds, organisms, or any other possibly contaminating substances offsite prior to construction.

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

3. **Utah Pollutant Discharge Elimination System Permit -** A Utah Pollutant Discharge Elimination System Permit will be required from the State of Utah before any discharges of water, if such water is to be discharged as a point source into a regulated water body. Appropriate measures will be taken to ensure that construction related sediments will not enter the stream either during or after construction. Settlement ponds and intercepting ditches for capturing sediments will be constructed and

the sediment and other contents collected will be hauled off the site for appropriate disposal upon completion of the Project.

4. **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. Utah Administrative Code R307-205-5 requires steps be taken to minimize fugitive dust from construction activities (Appendix B). Sensitive receptors include those individuals working at the site or motorists that could be affected by changes in air quality due to emissions from the construction activity.

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

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

   An MOA will be executed to mitigate the adverse effects to site 42UN5195 and 42UN5471. Mitigation for the adverse effects, set forth in the stipulations of the MOA, must be completed before construction activities associated with the Proposed Action begin.

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

7. **Previously Disturbed Areas -** Construction 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.

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

9. **Disturbed Areas -** All disturbed areas resulting from the Project will be smoothed, shaped, contoured, and rehabilitated to as near their 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.

10. **Ute Ladies'-tresses –**
    - Construction activities will avoid, to the extent feasible, ULT habitat outside of the Canal corridor and staging areas;
    - Best Management practices will be determined during ESA Section 7 Consultation.

Chapter 5 Consultation and Coordination

5.1 Introduction

Consultation with the USFWS pursuant to the Endangered Species Act is discussed throughout this EA. 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. NEPA requires full disclosure about major actions taken by Federal agencies and accompanying alternatives, impacts, and potential mitigation of impacts.

5.2 Public Involvement

On May 30, 2013, Reclamation mailed 884 scoping letters to property owners within 1000 feet of the Canal right-of way, as well as state and Federal agencies, notifying them of the Project and inviting them to an open house. The mailed letters also included an invitation to participate in a 30-day public comment period which ended on July 18, 2013. Reclamation received six comment letters, carefully reviewed the comments and considered relevant comments in the environmental analysis.

This draft EA is provided to the public for another 30-day comment period. All comments will be considered in finalizing the EA.

5.3 Native American Consultation

Reclamation conducted Native American consultation throughout the public involvement process. A consultation letter and copy of the Class III cultural resource inventory report were sent to the Ute Indian Tribe of the Uintah and Ouray Reservation, the Ute Mountain Tribe of the Ute Mountain Reservation, the Southern Ute Indian Tribe of the Southern Ute Reservation, the Northwestern Band of Shoshoni Nation of Utah, the Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho, and the Shoshone Tribe of the Wind River Reservation. 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. Reclamation received no response from the consulted tribes.

5.4 Utah Geological Survey

Reclamation requested a paleontological file search from the UGS to determine the nature and extent of paleontological resources within the APE. File search results and recommendations from the UGS were received in a letter dated September 23, 2013.

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 Alternative were submitted to the SHPO. SHPO concurred with Reclamation's determination of historic properties affected in a letter dated November 25, 2013.

5.6 Bureau of Indian Affairs

In a letter dated November 21, 2013, Reclamation's archeologist requested an evaluation of ITAs within the APE from the BIA, Uintah and Ouray Agency. Reclamation received no response from the BIA identifying any ITAs impacted by the Proposed Action.

Chapter 6 References

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U.S. Bureau of Reclamation, 2007. Final Environmental Assessment Steinaker Reservoir Normal Water Surface Elevation Increase.

Chapter 7 Preparers

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

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Chapter 8 List of Acronyms

APE	Area of Potential Effect
BLM	Bureau of Land Management
BMP	Best Management Practices
BA	Biological Assessment
BO	Biological Opinion
Canal	Steinaker Service Canal
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Cfs	Cubic Feet Per Second
CLSM	Controlled Low Strength Material
CWA	Clean Water Act
District	Uintah Water Conservancy District
DEQ	State of Utah Department of Environmental Quality
DWR	State of Utah Division of Wildlife Resources
EA	Environmental Assessment
EPDM	Ethylene Propylene Diene Monomer
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
HDPE	High Density Polyethylene
ITA	Indian Trust Assets
LUST	Leaking Underground Storage Tank
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PVC	Polyvinyl Chloride
Reclamation	U.S. Bureau of Reclamation
ROW	Right of Way
SHPO	Utah State Historic Preservation Office
SOP	Standard Operating Procedures
UDOT	State of Utah Department of Transportation
UDWRi	State of Utah Division of Water Rights
UGS	Utah Geological Service
UPDES	Utah Pollution Discharge Elimination System
USFWS	U.S. Fish and Wildlife Service
U.S.C	United States Code
UST	Underground Storage Tanks
ULT	Ute-ladies'-tresses
USACE	US Army Corps of Engineers

Chapter 9 Figures